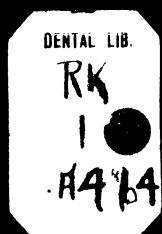
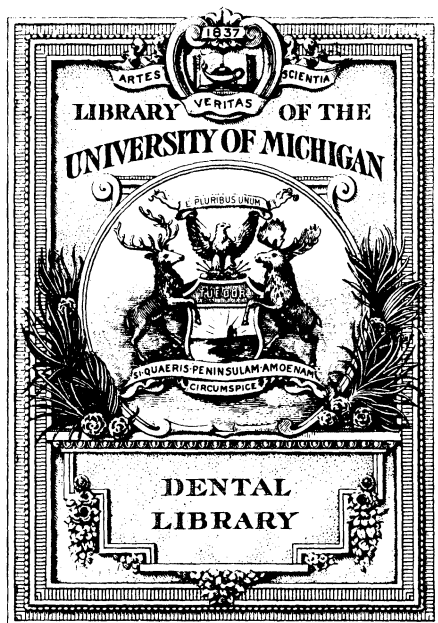


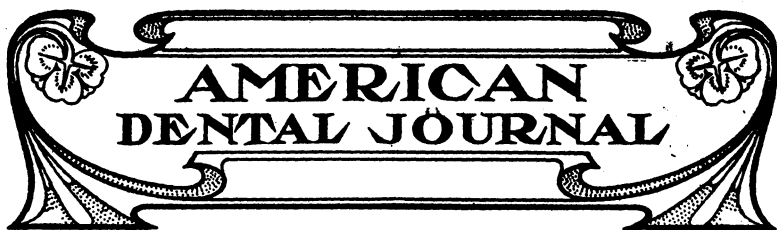
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# LISTERINE

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A fourth of a century of continued, satisfactory employment of Listerine has demonstrated to many practitioners that Listerine is the best antiseptic to prescribe for daily use by the patient in the care and preservation of the teeth. The mild, stimulating effect of the free boric acid radical in Listerine is of the highest importance in maintaining a healthy equilibrium of the fluids of the oral cavity. At best, alkalies simply temporarily neutralize the acid-forming ferments which the carbohydrates of food produce in the mouth,—a true antiseptic prevents that fermentative change.

Literature will be forwarded upon request, containing a brief résumé of recent bacteriological investigations supporting the above argument.

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**Lambert Pharmacal Co.**

**St. Louis, U. S. A.**

# PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION

## ORTHODONTIA.

BY J. N. M'DOWELL, D. D. S.

PROFESSOR OF ORTHODONTIA, COLLEGE OF DENTISTRY, UNIVERSITY OF  
ILLINOIS.

### CHAPTER XX.

When pressure is first applied there is a great resistance from the alveolar process. Absorption does not begin when pressure is first applied; that is, not for a few days, at least. When the pressure is applied there is a slight bending of the alveolar process, followed by absorption. The process of absorption and redeposit undoubtedly

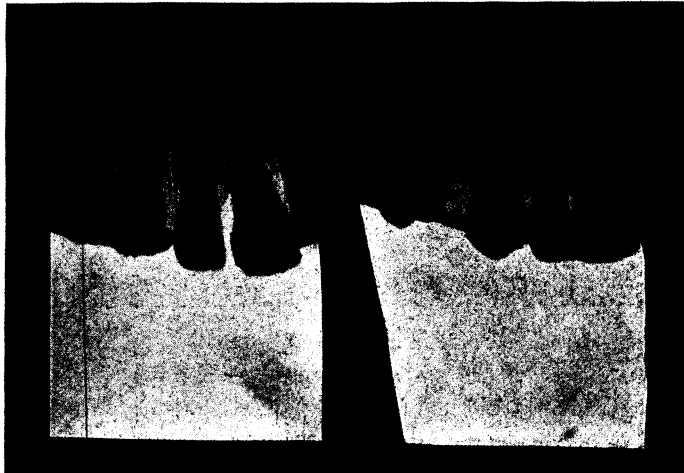


Fig. 1.

begins as soon as the pressure on a tooth is persistent and continuous. The fact must be kept in mind the absorption and redeposit of bone structure is a slow process and is interfered with continually when

teeth are being moved by allowing appliances to get loose. In drawing a cuspid back with a traction screw the root tips forward and the crown of the tooth tips slightly backward. Fig. 1 shows an X-ray of a case that was photographed when the appliance was first put on, and another X-ray taken six weeks later. This last X-ray shows clearly just what change has taken place in the alveolar process and where absorption is taking place, and how much more rapid the absorption is than the redeposit of bone. The X-ray also shows how the tooth is being tipped in the process and at what point pressure is brought to bear on the bony structure. Mesial to the tooth is the space left between the cuspid and the wall of the process by the movement backward.

Another point illustrated by the X-ray is that it shows the force of the fibers of the periodontal membrane that pass off at right angles to the line axis of the tooth through the gum tissue, attaching itself to the next tooth. In this case no pressure had been applied to the



Fig. 2.

lateral, yet the tooth has moved perceptibly backward by the pressure of the fibers of attachment of the cuspid and lateral. Note the free space between central and lateral due to this movement.

#### DANGERS LIABLE FROM MOVING TEETH.

(1) Loss of vitality in the pulp from severe pressure at first in depressing or elongating a tooth. The author has only had three cases where this occurred, two from depression of the teeth and one

from elongation. It seems to be the quick, severe, intermittent strain that causes the death of the pulp, and this manner of applying pressure should be avoided at all times. No danger other than severe inflammation ever occurs to the peridental membrane from the ordinary movement of the teeth.

(2) Fracture of the process from heavy pressure of a jackscrew is liable to occur in those cases that become obstinate and the operator tightens the appliance until the process is fractured. There is no serious danger from fracture of the alveolar process unless the fractured process extends through the soft tissues, leaving an opening which naturally invites disease of the peridental membrane or periosteum of the bone. Owing to the thinness of the anterior part of the alveolar process, the fractures are more apt to occur on the labial surface by the heavy pressure of a jackscrew.

(3) Separation of the lateral halves of the maxillary bones, especially the upper. This condition can be brought on by the com-

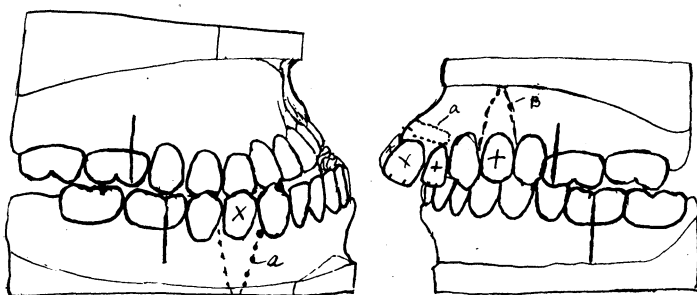


Fig. 3.

bined use of jackscrews across the arch and the wire arch around the arch. While this is a disagreeable accident to happen, and the first time one may feel quite alarmed to see a space  $\frac{1}{2}$  to  $1\frac{1}{2}$  millimeters between the central incisors that did not exist the day before, the result is not serious so far as involving any vital tissues is concerned. But the result may be the permanent separation of the central incisors, if allowed to remain too long; so it is best to remove the pressure and secure the anterior teeth with bands soldered together, or wire all together in the form of a figure 8, allowing a rest of two or three weeks before renewing the process. In rare cases this separation of the lateral halves at the median line may favor the treatment.

## SURGICAL TREATMENT.

Cutting away bone in front of a tooth may result disastrously if done carelessly. In the first place, cutting away bone in front of a tooth to hasten its movement is a poor compensation for the result gained, to say nothing of the danger to the periosteum and periodental membrane by cutting into them and inviting infection. Occasionally there are cases favorable for assistance by this method, but they are few in number, and, as far as the author's practice is concerned, are limited to impacted teeth or teeth that are to be moved some distance, usually cuspids, with a heavy wall of bone in front of the teeth to be moved. The idea of cutting bone structure away from in front of a moving tooth is usually carried out with the idea of saving time, and an experienced operator may do this successfully, but with the inexperienced operator only typical cases should be treated in this manner. The writer does not recommend the procedure.

A and B, Fig. 2, show two cases suitable for cutting the bone away in front of a tooth. To cut away the structure around an impacted tooth use a small, sharp burr; then chisel away the bone with a small, sharp chisel while the assistant uses the mallet. This is a much safer procedure than depending entirely upon the use of the engine burr.

Such unusual conditions as illustrated by Fig. 3 may be partially improved by the ordinary methods of regulating, but for permanent and successful improvement of the facial appearance of adults such cases are fit subjects for surgical interference. In case of A, Fig. 3, it would be necessary to reduce the prominence of the lower jaw by an operation, removing a section on each side of the jaw (A and B, Fig. 3), and then moving the anterior part back, establishing a harmonious relationship between the arches and certainly improving the facial outline. The author does not advocate this treatment, but it has been accomplished several times, one case coming under the immediate observation of the writer.

Another operation that has been accomplished at least twice is the removal of the anterior teeth in a case like B, Fig. 3, and cutting away of the alveolar process with the forceps at A and B, Fig. 3, and later, when this has healed, to replace with bridge work, producing an improvement that certainly could never be produced in an adult by regulating appliances.

(To be continued.)



PROSTHETIC DENTISTRY.

---

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---

CHAPTER XXXVIII.

The dissimilarity of the two hemispheres of the face is more pronounced than is generally supposed. The muscular action is considerably different, hence the variation in the sides of the face. The extraction of teeth on one side of the jaws, allowing absorption and subsequent osseous alterations, is quite generally the cause of the variance of the right and left sides, though the cases are numberless where variation is due to causes other than the loss of teeth. People acquire a habit of smiling, or even laughing, on but one hemisphere of the face, thus inducing activity of one set of muscles and giving dormance to the others. A frequent instance of this is observed where the zygomatic fibers are employed and the upper lip considerably raised, while the lower lip, immediately below, seems dead and lifeless. The patients can be taught to avoid this, as they can also be instructed on the subject of laughing in the common or vulgar manner, showing the entire upper gums. This latter habit is especially undesirable, and even offensive, where a full upper denture is worn. Teach them to laugh more as do the children, drawing the corners of the mouth backward and upward, and thus exposing only a fractional surface of the artificial teeth, either in bridge or denture. All this information to patients who wish to appear natural and easy will be welcome, and it will lead them to comprehend the culture and aesthesia which accompanies the proper use of the lips during the smile or laugh. The control of the lower lip during the physical expression of joy is so rare a talent or gift that its function when adeptly employed lights up the entire countenance in an almost divine way, and the muscular grace which is complemental to a soulful smile or hearty laugh is indeed a rare possession.

As evidence that the two sides of the face do not possess the same resistance to natural effects, the recent statistics of Dr. Julius Witzel will be interesting. He shows that the left side is more subject to ulcerations and general defects. Dr. F. S. Whitsler also has

gathered statistics which would lead us to the belief that the left side of the mouth suffers most from decay, and the loss of teeth following would indicate that the left side demanded the greatest of artificial substitution. He has compiled an excellent table and demonstrates that the left side of the mouth receives the most attention of the dental operator, since by his careful examination into the matter he has learned that fillings on right side were 47 per cent, while the left side the percentage reached 53. This would somewhat explain that the greater number of people are obliged to wear dentures or bridges on the sinister side of the oral cavity.

My own observations in this direction induces me to conclude that the cause for this is found in the method of our receiving food. I am of the opinion that people who are left handed and render the food to the left side of the mouth and thereby allow that side of the upper and lower jaws to exercise, will quite likely strengthen the teeth on that side of the mouth, and, neglecting to employ the right side, induces decay on the right. This would show just opposite what the two doctors found. The limited number of cases observed will not admit of my forming a definite rule, though I think the matter is all a question depending upon the uniformity of use to the teeth, hence right handed people deliver the food to the right side and would quite likely have weak and broken down teeth on the left side, and vice versa. Information along this line would be cheerfully welcomed by the practitioners.

The opposite is true regarding the absorption of the alveolar ridge where all the teeth have been removed. The greatest absorption takes place on the right side, because the most people are right handed and render the food to the right side, and employing the artificial denture most on that side according to a well established law in physiology, "Where there is pressure there is absorption," hence the masticating mostly on the dexter side, the alveolar ridge wastes the more on that side of the face and will require the more attention in restorations. But in the extensive build-up which the right side often requires in both superior and inferior cases, it is splendid practice to lighten the vulcanite by inserting aluminum strips; besides, you are less likely to have a porous plate since the metal prevents bulk of rubber, and the case will not only come from the oven lighter, but more perfectly baked.

In bridges where there is extensive restorations of gum tissue necessary, the use of gum-section teeth will give best results. The section can be rounded and made to adapt itself fairly close to the gums; an intervening space is promissory of good effect, as it will admit of washing away the food particles which are certain to collect. The advantages of the removable bridge and the saddle-bridge will be considered in a later chapter.



No. 1 Shapely Mouth.

The world generally is heeding more each day the beauty and expression of the face, and the mouth is the emphatic declaimer; hence we should instil into our patrons a desire to proclaim our work in accord with the saying, "Tis true art to hide art," and display more reluctantly the artifices of the mouth and cautiously guard against habits which will lead to expositions of oral conditions.

In the event that a person has lost both upper and lower teeth, and the habit of smiling and even talking has led to the uneven use of the facial muscles, the dentures can be so constructed as to overcome this physical disturbance. If the mouth is not positioned in the face in accord with the anatomical levels, and one side of the mouth turns upward while the other turns slightly downward, the case can be readily corrected. If the dexter side is elevated and the sinister side depressed, construct the upper denture with pink gum scant on the dexter side and a liberal pink gum on sinister side. This will elevate the sinister contact line of the lips; and construct the lower denture just opposite to rule just given, and by this means you restore the lip line to a normal position.

The groove directly beneath the septum of the nose is in some people very deep and culminates on the lip in an elevation. This groove is known in the art world as the philtrum, and the elevation as the labial tubercle. This groove adds markedly to the expression, and its disturbance by artificial dentures is considerable. If the denture is made with a heavy gum ridge, either of pink rubber or gum section restorations, this groove is made shallow, and even eliminated, giving the upper lip a stiff, rounded appearance which is most unnatural and undesirable.



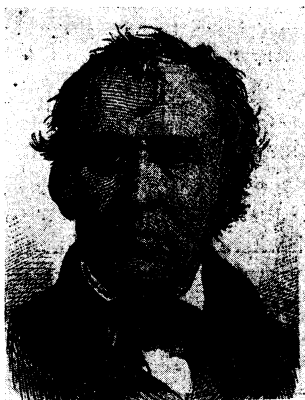
No. 2. Normal Pose of Upper Lip.

When the lips have the so-called radiating wrinkles, due to the constructor muscles' puckering condition, then a full artificial gum is indicated in both upper and lower denture, though there are many cases where the labial radiations can be eradicated by proper direction of labial exercise.

The dual grooves so often seen on people who have passed into the fifties is well illustrated in the engraving, the one groove running from the corner of the nose downward and backward passing the

## PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION.5)

angle of the mouth and losing itself in the direction of the angle of the lower jaw; while the second groove starts at the angle of the mouth and is directed downward toward the mental foramen. These two grooves are quite generally observed on people whose natural teeth are in splendid condition, hence nature provides that these facial lines can be present and need not detract from the harmony of the contour of the entire face. Where the orbicularis muscle is very strong and well developed, as is often the case with musicians who produce sounds with the force of lung pressure, these lines or grooves generally take on a curved, rather than a straight line, due to the peculiar exercise of the orbicular muscle.



No. 3. Lines of Age.

Recent investigation has determined that the orbicularis oris is not a sphincter muscle, since none of its fibers are continuous about the oral opening. The closing of the mouth is not produced as the closing of the eye where the orbicularis palpebrarum practically surrounds the eye; the orbicularis oris brings about a compression of the mouth by the combined action of innumerable muscles. In fact, the fibers surrounding the mouth ramify in tissues distant from the oral cavity and are influenced by all the adjacent muscles, which are in an undefinable manner intricately interwoven with the orbicularis oris. The complex organization of the muscles about the mouth will appeal to all, after diligent survey of these parts are made on the cadaver. Too little attention is given to the regional anatomy involving the opening of the mouth. The upper lip is slightly more forward and prominent than the lower lip, as shown in engraving.

The great art critic, R. W. Shufeldt, of Washington, D. C., writes: "In some individuals the upper lip is so short as to hardly cover the teeth. Again, although only the front teeth are visible, and then only when the lips are drawn back (by laughing), greatly influence the formation of the face. When the back teeth are missing the cheeks collapse. With increasing age the teeth wear off, the lips become more compressed, the nose approaches the chin and the mouth becomes wider; the skin forms layer folds around the corners of the mouth. It is thus that the students of the human form come to study and observe every character, and with artists, sculptors and others, these observations are sure to be exhibited in their work, resulting in grander conceptions and a more perfect reproduction of the natural."

Where the small attachment muscle of the upper lip interferes too much with the upper denture and rides too low on the gum margin, it is oft best to inject a local anæsthetic and with surgeon's shears snip the alveolar insertion; thus you relieve this muscular pressure on the plate and do not invoke any special discomfort. Sometimes the lower plate is disturbed in a similar way by the fibers of the adjacent muscles; and where the absorption is great these muscular fibers of the tongue and lip often appear attached to the central ridge of the alveolus, thus constantly dislodging the plates; and if similar surgical treatment is given these interfering muscles the dentures will rest and no injury is done to the patient.

The effort of the dentist must not be to attempt to make the face congenial to the rules of beauty, but rather follow the laws of co-ordination for a beautiful face—a picture face, does not appeal to any one who seeks strength of character or broadness of culture. Our purpose should be to bring to the surface the soul of the patron, and our minds should be engaged in molding pleasant and characterful features rather than indulge in creating shallow beauty.

In my recent readings I chanced upon the definition of beauty as given by that master of word meaning, Crabb. He writes: "Beauty is peculiarly a feminine perfection; in the male sex it is rather a defect; a man can scarcely be beautiful without losing his manly characteristics, boldness and energy of mind and robustness of limb." He is quite in accord with the old saw, "Beauty is but skin deep." Hence our labors should be less superficial and more scientific and basic. This can best be attained by a deep research into underlying sciences of anatomy and physiology.

(To be continued.)

DENTAL THERAPEUTICS.

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PROFESSOR OF ORAL SURGERY, DEARBORN MEDICAL COLLEGE,

---

Drugs and their application in dentistry is a subject that really knows no limitation. Many times the dentist is asked, and frequently the subject is discussed in the dental profession, as to what is really the limitation of drugs and their administration by members of the dental profession. Dentistry is in some respects like general medicine, any knowledge of which will bring members of the healing art to a better and broader understanding of all that pertains to physiology and the actions of drugs. Pharmacology is valuable and is something that can not be inherited in the form of money or knowledge, but must be accomplished by painstaking study and research. Therefore, we must necessarily discuss many phases of the subject which may look like useless waste of time and without practical value. Consequently we will take up the discussion of some of the alkaloids that must of necessity deal with pharmacology of the subject.

Atropine is one of the series of alkaloids that is found in a number of plants that belong to the order of solanacea, and in this group are several compounds that may occur together. Atropine is one of the substances that can be broken up by alkalies into tropine and tropic acid. The former of this group is found in the pyridine compounds and is very closely related to the ecgonine, while the last named substance (tropic acid) is an aromatic acid.

Hyoscyamine is also an allied compound and may be broken up in the same way as above stated, into apparently the same constituents and practically in the same way as atropine. The only difference apparently is the physical arrangement of the molecular compound. But according to the best authorities it has been shown that the difference in the physical arrangement in the molecule alters the effect of the last one when used internally in the animal organism. Hyoscyamine and atropine are so closely allied that the former can easily be changed by chemical manipulation to practically the same as that of atropine. Hyoscyamine was up to the last decade thought to be the same in its chemical constituents as that of atropine, but later investi-

gations has demonstrated that it has a different chemical formula to that of atropine. It can be decomposed, however, into pseudotropine, which is also called oscine and tropic acid.

The isomers of these compounds were considered so nearly alike that it became an interesting field for investigation. Heidenhain, Luchinger and many others have investigated these subjects with a great deal of interest, and the papers published by these authors are considered by students of pharmacology to be full of interest and instruction. However, we might state here that the principal difference in these chemical compounds is that the number of hydrogen and oxygen atoms differ materially from each other.

A number of alkaloids have been extracted from the same source, but have no special interest in this connection. After the fact was discovered that atropine was an extract of tropine it was soon found that these alkaloids could be produced artificially, and considerable interest has been displayed in this direction, in some few instances with flattering results. The artificially produced products are called tropeines, the only difference apparently in the name being the addition of one letter in the spelling. In the artificially prepared alkaloids, the substitution of tropic acid by some other acid, there has been formed some very extremely toxic products, the actions of which in some instances are unreliable. The only artificial alkaloid that seems to have met with very much favor as a substitute is the compound known as homatropine.

The combination of tropine and tropic acid does not form such a compound as the ordinary alkaloid, as morphine with an acid. The alkaloids combine with alkaline solutions and this in turn is acted upon by the acids to form salts. A large majority of these alkaloids are taken from the *atropa belladonna* (deadly nightshade), and from this same plant it is said that atropine, hyoscyamine and also tobacco and potato leaves contained many of these alkaloids, but in such small quantities that it is of but little importance to us here.

In the decomposition of meat and fish there is formed a ptomaine which will produce practically the same symptoms as those elicited by the use of atropine. This compound is called ptomatropin. This putrified alkaloid-like substance is probably a very interesting product in the decomposition product of the oral cavity and the intestinal tract, and it unquestionably is, according to the best evidence ob-



tained by Dr. Mathews and myself, a product practically always present in the pulp chamber in putrescent pulps, where the state of putrefaction has taken place under anærobic conditions; but this concerns us but little at this time, any more than that it apparently belongs to the same group of chemical compounds found in plant life and reckoned among the alkaloid-like groups of ptomaines.

When atropine is injected into the frog it will bring about increased excitability, resembling in many respects the same symptoms as are produced by strychnine. The duration of the effect is brief and the animal lies motionless and a reaction to stimulation is practically lost. After some several hours, to sometimes two to three days, the animal would again resume some of the reflex symptoms that it had in the early stages of the injection. From the indications observed in the injection of both the mammals and amphibians plainly shows that the central nervous system is stimulated, passing into a depression of the same system and sometimes the exciting stage of the alkaloids are closely allied to the symptoms observed in certain stages of poisoning by alcohol.

It will be remembered that under the discussion of alcoholic poisoning the animal fails to control the normal exercises, and that the higher motor powers are lost and that the lower motor area of the central nervous system is stimulated rather than that of the higher. This is not always true, however, in case of atropine poisoning because the motor area is more easily stimulated by an electric current. The stimulating action of atropine is observed to produce a reflex irritability of the skin and the outer integument of the body more than an alcoholic stimulant. It may be said that the response to the irritation of the skin in atropine shows more conclusively that the medulla is acted upon than in case of alcohol. The stimulation, then, we would say, must of necessity be in the central nervous system.

In strychnine poisoning the marked symptoms come from the spinal cord and medulla, while the symptoms produced by atropine come from the brain. In the frog these symptoms are more alike when atropine and strychnine are administered than the effects would be on the higher forms of animal life. As we have just said, strychnine acts upon the spinal cord and medulla, while atropine acts upon the brain centers, and as we all know, the brain centers are not so

nearly developed in the frog as in the higher forms of life. Atropine differs somewhat to that of caffeine, the latter producing certain psychical effects; it must be said, however, that all three of these act upon the central nervous system. As we have just said, strychnine acts upon the lower division of the spinal cord and medulla, the caffeine acts upon the higher functions of the brain, and psychical atropine occupies a position somewhat midway between these two, which is the motor center of the brain. It may be stated, however, that in the ordinary use of these three drugs there is apparently but little difference, but this little difference is the point on which may hang the thread that exists between life and death; so it is really the difference between the extreme, but well defined line of discrimination between the two.

It has been my privilege to study the action of these drugs in the physiological laboratory with Dr. S. A. Mathews, and the observation and knowledge obtained there has been of inestimable value in the thoughtful consideration of various compounds that come from putrefactive processes as found in the putrescent pulp tissue. This field of work has for a long time allowed great temptation to me for further investigation, and at some future time I hope that I shall be able to place some interesting literature and experimental data along this line of research.

The stimulating actions of atropine spreads downward along the spinal cord, and the symptoms appear very much like those of strychnine poisoning. After stimulation has lasted some time the depression takes place and complete paralysis of the central nervous system in the higher forms of life. This is not so true in an animal like a frog, for as we have just said, there is great reflex irritability followed by depression, which may last from several hours to two or three days; and then, again, a stage of excitement may appear and during this secondary excitement the drug may be eliminated from the body and complete recovery of the animal may be the result.

When atropine is administered it usually involves the peripheral nerve ending in the secreting glands, and the organs containing the unstriated muscular tissue, like that of the heart, are acted upon in such a way that a decrease in the secretion of the glands are materially retarded and the salivary glands, the mucous glands, milk and sweat glands are all involved in this process. It must not be understood

that the drugs acts directly upon the glandular substance, but its action is on the nerve endings causing paralysis of the peripheral nerves.

During the effects of these drugs and especially that of atropine the flow of saliva is only manifested when certain impulses reach the ganglion cells either through the chorda tampani or through the cervical sympathetic fibers. If the chorda tampano be divided and an electrode and canula be passed in Whorton's duct, a flow of saliva will be observed when a stimulation is applied to the nerve, which either ceases or becomes perceptibly diminished when the stimulation is removed.

(To be continued.)

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#### USE OF THE TITLE OF "DR." BY A DENTIST.

At an open court held by the Dental Board of New South Wales under the Dental Act, Mr. Bradley was charged with "infamous conduct in a professional respect," by using a brass plate with the prefix "Dr." to his name, adding thereto his university degree "B. D. S." The question was raised whether a dentist holding a bachelor's degree was entitled to call himself "Dr." by analogy to the similar practice in the medical profession; and, if not, whether it amounted to "infamous conduct" under the act. The court gave the following decision: "That the conduct of Mr. Bradley in assuming the title of 'doctor,' he having only obtained the degree of Bachelor of Dental Surgery, is such as this board condemns. Such conduct, however, appears to have been based upon a supposed claim of right to establish a practice similar to that which obtains in the medical profession. In the circumstances the board will take no action in this case. The board, however, reserves to itself full liberty of action if, in view of the opinions now expressed, the practice is persisted in by Mr. Bradley or any other registered dentist in this State."—*Dental Surgeon*.

## OPERATIVE DENTISTRY.

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Shop Talks.

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BY R. B. TULLER, D. D. S.,

CLINICAL PROFESSOR OF OPERATIVE DENTISTRY, CHICAGO COLLEGE OF  
DENTAL SURGERY.

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No. VIII.

---

## SOME NEW FEATURES IN OPERATIVE WORK.

Among the things of recent introduction in operative and prosthetic work, is moldable porcelain; which means that the substance is mixed like cement, and that it has some of the properties of cement, in that it may be first molded to the shape desired, or approximating it, if done quickly, when crystalization speedily follows, which acts, of course, to retain the shape as hardened cement or plaster would. But, being a porcelain material, it may now be fired in the furnace, with comparatively little shrinkage and little change of form.

It, however, lacks translucency, but has a very desirable property over translucent porcelain, and that is strength and durability—a toughness of quality, so to speak, which, in a measure, is like tough, hard vulcanite, and yet lacking in the resiliency of hard rubber.

It fuses at about 1800° F. To fuse it, or bring it to a high glaze is to over-do it, losing some of its best qualities. If under-done, it will be shown by a drop of water, which it absorbs.

After it has been molded to approximate shape and hardened and before baking, it may be carved very much as hard plaster may be; but to compensate for the shrinkage in firing, the design, if of some bulk, should be left a very little larger than desired for the finished article. If any change in form is desired after baking, it may be ground with stones and disks. If a glaze is desired, it may be had by coating it with low fusing enamel body and fusing that, but it may be polished very well by the use of disks (as would be done with porcelain) and answer every purpose in some cases, without baking on an enamel coating. The enameling is mostly for appearance sake.

There are numerous cases where it may be employed to make a

molar crown, whole or partial, to fit into a prepared pit, and certain inequalities of the root, obviating the use of pins running up into the roots; though pins *may* be baked into the material if desired. German silver wire will answer every purpose if pins are desired.

Inlays in molars may be made that will give satisfaction equal to anything that may be used, except the matter of matching tooth shades. Its color, however, is a gray that approaches, very closely, the color found in a large number of molars; and where not conspicuously exposed has a more aesthetic appearance surely than either gold, amalgam or anything but a good matched in porcelain. In exposed positions a proper shade of enamel fused on, as referred to above, makes matching up in many cases entirely satisfactory.

This moldable material is certainly of great value where strength is required, together with an appearance far better than gold or amalgam. While the usual porcelain has strength enough if there is bulk enough, there will often be a chipping of margins traversing an occlusal surface that sustain the strain of mastication; but this moldable porcelain will stand up in edge strength equal to amalgam, and, while not as good as gold for strength, it will rarely be found wanting if consistently employed.

Its value as a new adjunct to porcelain material is greatly appreciated in its use for making perfect joints and contact between ready-made porcelain crowns and the roots they may be selected to cover. No matter what the discrepancy, the space may be filled with moldable porcelain, and an absolute fit to the root obtained; so that when set with cement, subsequently, the joint can scarcely be detected; and the contour of the crown at the joining blends naturally to the shape of the root with no undesirable shoulders or overhanging margins. Taking a Logan incisor for instance, the pin is fitted to the root canal in the usual way. The root is cut away, preferably, a little beyond the gum line. The crown may then be adjusted to the root so that the labial contact is fairly close, but with little regard to any space left lingually. When this is done and adjustment as regards adjoining teeth and proper alignment is completed, the mix of soft putty-like consistency of moldable porcelain is packed quickly around the pin in sufficient quantity to fill all open space, and the tooth pushed firmly to place and allowed to remain undisturbed a few moments until crystalization has taken place. To prevent the

sticky mass adhering to the root, the latter should be smeared with vaseline or olive oil. In some cases the root should first be coated with thin sandarac varnish, that will harden quickly, and then oiled. This applies more particularly to roots where the shape to be fitted is irregular, which will be explained further along.

The moldable porcelain, having become hard, the tooth is now removed, when a perfect impression of the end of the root will be found in the substance. Now, with a sharp blade it may be trimmed to correspond to the outline of the tooth and the root as indicated by the impression. It is now ready to bake, and should not be carried above 1800°. The color in the furnace when at the desired temperature is a sort of canary yellow. To the novice in this particular art, some experimenting will very likely be necessary before the best results are attained.

When sufficiently cooled, the crown is again adjusted to the root, when it will most likely be found that the shrinking of the material in the furnace leaves some little discrepancies of fit. This is remedied by again oiling the root, mixing a very little more of the material, and not quite so stiff, as at first, and, smearing a layer around the pin as before, take another impress, allow to harden, remove, trim and bake as before. Or, if one chooses, this trimming may be omitted until after the bake, and the thing finished up with stones and disks. It will be found that a fine polished surface may be obtained, care being exercised, of course, not to infringe upon the surface that shows the exact impress and outline of the root.

The tooth now is ready to set in the usual way with either gutta percha, a method followed by many, or cement. The color of this material is in many cases not seriously objectionable if the joint is exposed—never so much so as the show of gold when that substance is used between crown and root.

In particular cases, if the line of joining must show for any reason, the exposed portion may be enameled with low fusing porcelain to correspond with the shade of the tooth. Or where desired a pink gum enamel may be baked on to restore loss in that respect.

Moldable porcelain is particularly available to make large restorations in molars and sometimes bicuspid; to be set on the principle of an inlay. Reference is made to that class of broken-down teeth bolstered up usually with big contour amalgam fillings, or given over

to the gold crown as the only salvation. About the only difference in preparing such a tooth for amalgam and this moldable material, is that for amalgam some undercut anchorage is necessary to retain it, while with this moldable substance the preparation must be so that an impression may be withdrawn from it without distortion, same as for an inlay.

Usually an impression is the better method of procedure; which means making a model to work by; but familiarity with the peculiarities of moldable porcelain, enables some operators to take the impression with the substance directly from the tooth, moisture being excluded. When this is done and there are pits and projections to be taken, it will be found essential that the tooth be first varnished with thin quick hardening varnish allowed to dry, and then be oiled with vaseline. The same thing should be done with a model, if that procedure is to be followed. And from the model, after the first bake and an approximate form is produced, we often go to the tooth for the final impression, using the form smeared with a fresh mix of the material, as in taking a final impression of a root to be crowned, as before described.

With this approximate form, just alluded to, if not too full occlusally a bite may be taken by putting on a little impression wax where the occluding teeth are to be shown, and articulating plaster models run up as is usually done, when the form may be completed to full and proper contour by adding new material in one place and grinding away at another, if need be. Enameling may be done, if desired, as heretofore stated. When finished it is set as an inlay with cement.

It is generally understood that gold inlays are sometimes made because of their strength in comparatively small parts that are used to hook over into some occlusal depression. While moldable porcelain is not as strong as gold, needless to say, it is so much stronger than the usual porcelain, that it may be extended into certain arms and projections to give clutch and hold, provided a proportionate bulk is used. That is to say, a channel must be deeper and wider for these extensions in this substance than for gold; but where it would be folly to use the usual glass like porcelain because it would too readily fracture.

Again, this moldable substance may be used to make a solid crown with the facings used in gold bridge work; and a porcelain

bridge may be made stronger by the use of this material for backing, after teeth are attached to the skeleton, than would be the case with an all translucent porcelain backing.

There are many instances, too, where nearly all the varieties of porcelain molar and bicuspid crowns may be used in connection with this material in place of gold, to fill out and make the root connection.

The use of a Logan crown was given as an instance to describe the method of fitting an incisor, but all these removable pin teeth may be used quite as well, by first adjusting the crown in the usual way, and then using a little of this moldable substance to fasten pin in crown (if it perchance is a very loose-fitting pin, like the Davis', Justi's and White's) as well as for making the fit to the root.

Rubber and diatoric molars and bicuspidals may also be used with moldable porcelain in making restorations where the anchorage in root is good; and pins *may be* adjusted in roots, withdrawn with the impression and thus eventually imbedded in the moldable material when baked. In such a case, it goes without saying that pins, especially in upper molars, must be so adjusted that they will come away with the impress, and go to place without trouble when the crown is set. It is entirely unnecessary for pins or posts to go a long way into the roots of the teeth in any case, so long as they have a firm contact for such distance as they do go. In upper molars the roots usually stand at such angles in relation to the axial line that it would be often impossible to set a pin in each root and have the three draw away with an impression. It is quite sufficient often to have one strong pin lodged in the palatal root and not too rigidly, but in a large number of cases where there is left something of a pulp chamber, this pit properly shaped, may be depended upon to safely hold a full-sized crown. Pins may be used to advantage in some cases to extend into the deep funnel-shaped orifices of the roots held in place by a bit of wax slightly enough so that they will come away with the impression.

In place of varnish, recommended by the producers, to first coat over cavities that an impress is to be made of, the writer has made use of melted paraffine, hot enough to be painted upon any surface in a thin layer, sometimes warming the cavity with hot air to insure only a thin layer being deposited. This hardens at once and oiling is unnecessary.

(Subject to be continued.)



# ORIGINAL CONTRIBUTIONS

## TOOTHsome TOPICS.

BY R. B. TULLER.

Say!

You are not the only one that has had a vacation. I've had one.

My doctor put me on to it. I got a little rusty and he prescribed rustication!

My doctor is all right, I believe—when it comes to prescribing pills and things.

But I'm a little leary now about some things, after an experience, although he prescribes it for himself—takes his own medicine—but I guess from a different pharmacy.

I don't know where he goes; but I know where *I* went.

My doctor said rustication, pure and simple, was what I needed. My weight had run down to 247—a little bit alarming. He recommended a farm.

"Get out," he said, "away from the din and dust of the city. Get out into the fields and among the trees, and drink your lungs full of ozone for a month, and you'll be a new man.

"Get out," he said, "where you can get plenty of fresh, rich milk, and butter, and eggs, and chickens, and fresh country vegetables, and good, clear, cold spring water. Live as near as you can to nature for awhile, and you will feel greatly rested, refreshed and invigorated. You need change."

He did sure diagnose my case all right. I've known for years and years—ever since I was a boy—that I needed rest. And change? Why, I have a regular chronic hankering after change—from a nickel up, and vice versa. I could always use more than was coming my way.

Change is a great commodity—when you have it—and a dum nuisance when you haven't any. Of course, I'm speaking of this day and age, for I don't suppose Adam had to go into his change pocket very often—and find Eve had been there first. But Adam didn't live in Chicago, I don't think.

I can't imagine what he did when he wanted a nice cool lemon phosphate and Eve wanted a huckleberry sundae, but I know what I have to do. I am not sure that Adam had a change pocket at all.

I've wondered at times if he ever started out for a trolley ride with his best girl, and when the conductor came around, found he had left his change in his other pants. I'm not sure that he had any other pants.

Adam was long on rest—between times, at least—until he got dizzy and then had to go out and hunt work. Adam lived near nature, out in the fields and under the trees, and got all the ozone there was. And yet from all accounts he wanted change—and got it—23 bits. Anyway, 23.

It strikes me he must have got flimflammed in some way, somehow; for after inheriting a farm that worked itself, he lost it and had to go out and hunt a job; thereby setting a bad example for all humanity. If it hadn't been for him, my doctor would not have sent me out looking for rest. It beats all what an influence one man can have; and so long after he is dead.

Pardon digression. My doctor said skidoo, and it was *me* for the tall grass—"23."

I am a little peculiar, perhaps, but I like good butter; and to insure getting it I contracted for a jar a week direct from a farmer. My wife said she couldn't see that it was any better than some she got at the grocery, though I paid 30c all the year around and the express charges to boot.

Upon getting my prescription from my doctor I bethought me of the butter man, a nice, wholesome, honest old farmer, with a nice, clean, wholesome wife—I presumed. Had never seen them, but judged from the butter. To him I would write and see if I could be accommodated for a few weeks at Riverside Meadows, Maple Grove Station.

"Sure," came back the answer, if I would be willing to put up with their humble fare at \$10 per week, one person. My wife had no notion of going, but encouraged me. Good thing; for another \$10 per week would have queered the game. I'm no Rockabilt. But she wanted me to go and get well.

Note the "get well." I hadn't for some time been good for more than three square meals a day and my case was in that respect a little bit alarming.

On a beautiful day, about 2 p. m., I alighted from the train at Maple Grove Station, where Farmer Crabtree was to meet me; Riverside Meadows being three and one-half miles distant. The sun was still high in the heavens, and *warm*. Torrid, in fact. On one end of the platform empty milk cans from the train were being unloaded, their glare in the sun being something fierce to gaze upon. And that was about all there was to gaze upon, except prairie, prairie, prairie. The cosy little station house I had looked for was *non est*.

But the maple grove—oh, yes, there it was, away over next to the horizon. Between me and it the heat waves from the hot, burning prairies was plainly visible. What was more, not a soul and not an animal was in sight. Where was Mr. Crabtree? I could see for miles along the several level roads that led to the station, and not one thing was in sight that looked like any kind of a rig with humanity in it. This was interesting, and the sun burning the boards up under my feet. Had I realized this at once—well, the train was gone out of sight. I gazed longingly in the direction it had gone, and away up the road, whose rails glistened in the sun like two ribbons of fire, I noted a small gang of track laborers at work.

At some distance in several directions I discovered, here and there, a windmill standing idle; for no breeze stirred the tall wild grass tops even; and here and there I could note the roof of a large barn way off somewhere.

Except for the chirp of insects, a few twittering birds and the drone of a passing but seemingly curious sort of a bumblebee that interviewed me for a few moments, not a nearby sound could be heard. Away off in the distance I could hear the rumble of a train and the toot toot of an occasional whistle.

But ozone, wild prairie ozone, a little heated, was plentiful, and mingled with it came the odor of sweet clover. This was lovely. I filled my lungs full of it—and mopped the perspiration from my dripping face and noble brow with an already saturated handkerchief. My clothes were clinging to my moist body, but here was rest, and not a thing to do except rest—and think. Well, I won't tell what I thought. I realized my old complaint, I wanted change, and looked longingly along the different roads, for I knew not in which direction Riverside Meadows was located.

Yes, I wanted change. Oh, for some grateful shade! There was

plenty, apparently, away in the dim distance, but not a spot bigger than my own shadow cast slightly aslant along the rough curled up boards was near me. I tried to get in my own shade, but it kept evading me—you know how it is. I sighed for the shadow of George Cook.

Just then I noted the milk can platform. It was raised about two and a half or three feet from the ground and under it was shade. Me for the shade.

Down on all fours I sought the gloaming and won. But—say, did you ever smell a milk can platform? Did you ever smell one broiling in the hot sun? Did you ever fight great big bumbly, pestering flies by the million beneath one, not high enough to sit up straight under? Well, I know all about it. Ask me. This was Maple Grove Station—and me.

Ozone by itself is all right; it is fine. Ozone mingled with the odor of sweet clover is all right. But ozone mixed with the stinkiest kind of putrid milk that had leached for years, no doubt, down through that platform, I would not commend to the nostrils of any one—not even to my German friends, inured to limburger—unless I had a mean grudge against them. Me for the open and the swelter. I can smell it yet.

Oh, for a train of some kind—any kind, going somewhere—anywhere! Hark! here comes one headed for Chicago—dear old Chicago town. On she comes. No, on it comes. No, on *he* comes; it is the *mail* train. Yes, on he comes, thundering along at a great pace. Yes, great pace, which he keeps up until, whizzing by Maple Grove, with the engineer smiling genially at my frantic signals to stop, he is soon lost in a cloud of yellow dust way off on the other side.

Fast trains are a diversion. This one was, for a matter of about nineteen seconds. Then I talked to myself quite audibly and shocked my ears. Then I consulted a time card I had in my pocket. The next passenger train out of Chicago passed (*passed*) Maple Grove at 1:30 a. m. The next one in was the milk train at 7:04 in the morning. That would stop. In the mean time where was I to reside?

If I had known the way, or if I could have inquired, I would have inaugurated a march toward Riverside Meadows, though I did not at that time need any exercise. I have traveled the hot sands of the desert in my bare feet, and thought I could tackle a prairie road;

though I knew dum well the aforesaid hot sands did not stretch away over three miles in the torrid sun without an oasis.

Something had to be done. I needed some one to express myself to. The few words repeated to myself did not help the situation. I wanted to hear the sound of a human voice—beside my own aspirate ejections. I wanted advice. Up the track the gang was still working. I would just count the ties along up to them—and I did. Never before did four Dagos look so good to me. Never did four Dagos in the U. S. know so little of the English language; and when I tried my Anglo-Italian on them and one raised his shovel threateningly to shoo me away, I counted the ties back—to verify the first count. It was correct, and the round trip was fully three miles. I was sorry, too, I had not checked my suit case with the agent. That is, I might have done so if I had thought of it and there had been a station house and an agent there.

About this time I began to get thirsty. Oh, for a sight of Riverside Meadows—or anyway, the river side! Of course, there was a river there, though my map did not show any. I prospected the immediate territory around Maple Grove for a spring, a ditch, a mudhole. I might as well have prospected for gold. This time I left my suit case at the station—without checking. It was lucky I did, for I soon had use for both hands—and both legs. Did you ever run uncereemoniously into a wasp's nest? If you didn't, *don't*. When I returned to the station I was hotter than I had been, thirstier than I had been, and felt acutely restless from some cause, and my face began to knot up in places and feel queer. Then I got kind of provoked at myself, and the only way I could get even was to offend my ears again till they burned and I got red in the face—*more* red in the face—with the effort.

In the sky the sun was still serenely shining, but casting a little longer shadow along the platform than before. When I stood with my back to the sun and contemplated it, what a grateful shadow it seemed—for somebody; but my back felt as if up against a hot boiler.

If I took another walk toward the nearest windmill, Mr. Crabtree might arrive, and not finding me go away again. No, I must hang on a while longer; though there wasn't much to hang on to. Then a happy thought struck me. I stood my suitcase on end and the then declining sun threw quite a shadow along the planks, and ducking my head against the case, I stretched myself along the floor.

This was bliss—and blister. The case was not as wide as I am, I'm broad gauge, and there was blister at every protruding point on both sides, and my feet stuck out at the end. I have been more comfortable than I was there. After twisting and turning continually, to distribute the blister some, and not get it all on one spot, I had another happy thought. Gee whiz! why hadn't I thought of it before. I got up on my knees and opened that case and made it and the corresponding shadow twice as wide. How slow I was getting to this. After dwelling over this for a time and trying to rest my head somewhere, I got another happy thought. In my case was underwear and negligee shirts—good enough pillow for a king. More bliss, but my feet and lower limbs baked. After a time my brain evolved again. I had a biled shirt in the case. Why not take that and cover my lower limbs and feet. I did. More bliss.

And yet I was not altogether comfortable. I was otherwise. I was sore and weary and my brain, in working out these problems, had become fagged. I drifted off into troubled dreams, in which I was suffering with sunstroke and looking for Riverside riverside, that I might slake my burning thirst.

I don't know how long this lasted, but I awakened with a start at some peculiar sound. I jumped to my feet and beheld a hand-car coming with my four Dago friends aboard. Hastily shoving my things into the case, I made ready to board at all hazards. Two men were working the lever and two men dangling their legs behind. They kicked at me and fought my efforts to get aboard, but I was desperate. Now or never! I'd had enough! One of the men fell off and the car stopped. Then they all got off and came at me. I dropped the case and threw up my hands. As the case dropped, it flew open, and out slid a flask of—of unfermented grape juice. I had put it in for an emergency, and had forgotten it until now. Here was the emergency. I picked up the flask and smiling as well as my knotted face would permit, unscrewed the top, just as the most villainous of the bunch had raised a pickax, and pointed it at him. He saw I had the drop (or two) and he dropped the pickax, and showing his teeth in a broad grin, extended his hand for the flask. I handed it over; then he had the drop—or two, on me. He took two or more and passed it along. I don't know how much the last one got, but I got the weapon back, minus the ammunition.

Then a little pantomime followed and I was made to comprehend that I could get onto the car, which I did with alacrity; but instead of sitting down, I was invited to take hold of the handle in company with two of my friends. I did and we left *Maple Grove* forever—at least I did.

An hour's work at the up-and-down lever (during which my two helpers several times changed places with the two resters) brought us to a siding ten miles from Maple Grove. On the siding was a freight train, and another freight was to pass it at this point. Here was some kind of a chance for a brake beam at last. I left the hand-car and took it.

I reached home the next morning, congratulating myself that the Pullman company had no \$2.00 of my money for homeward trip. No, I gave it to a brakeman (who insisted that I get off) if he'd forget it.

I have found my own home a good place to rest in—barring the comments of my wife on my bulged appearance about the face, and asking if I was in the hornet's nest at Shiloh. There was a certain look in her eye that I interpreted as doubt as to my story about a half day in the country. A week later a letter came from farmer Crabtree, saying: "I went to Maple Grove for ye, as agreed, but was a leetle late on account of a busted trace, and, by gum! when i got there, ther was no trace of yew, where was ye"?

I'll tell you where I was, gentle reader; I was enumerating the ties up to the gang of workers and back; the same fellows who later rescued me from rest and roast and ozone and things. I've lost all desire for thirty days for this year.

Later, a friend told me that Riverside Meadows was the most bare-looking spot around there—no trees, no nothing—attractive; and there wasn't a river within ten miles; nor a dried-up creek even within one mile.

Well, I escaped something. It was due me—the escape. I ardently commend Chicago as a good summer resort. Me for it.

(Topics every month.)

# NOTICES OF MEETINGS

## **NATIONAL SOCIETY MEETINGS.**

American Society of Orthodontists, New York, December, 1906.

Institute of Dental Pedagogics, Chicago, December 27, 28, 29.

National Association of Dental Examiners, Atlanta, Ga., September 14, 15, 17.

National Dental Association, Atlanta, Ga., September 18.

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## **NORTHERN INDIANA DENTAL SOCIETY.**

The Northern Indiana Dental Society will meet at Hammond, September 18-19.

S. A. BELL,  
Secretary-Treasurer.

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## **THE MINNESOTA STATE BOARD OF DENTAL EXAMINERS.**

The Minnesota State Board of Dental Examiners will hold their regular meeting on October 2d, 3d and 4th at the dental department of State University in Minneapolis. All applications must be in by noon of October 2d. Any further information will be furnished by Dr. Geo. S. Todd, Secretary, Lake City, Minn.

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## **ST. LOUIS DENTAL SOCIETY CELEBRATES WITH A GOLDEN JUBILEE.**

The St. Louis Dental Society, the oldest continuous dental organization in the world, will celebrate its golden anniversary with a banquet and entertainment some time in November, when the fiftieth year of its existence will be completed. Eminent men in the profession outside of the city and state will participate. More detailed announcement will be given in October issue. Yours respectfully,

J. B. NEWBY,

Chairman Committee on Arrangements.

W. F. LAWRENZ, Secretary.



**NORTHERN ILLINOIS DENTAL SOCIETY.**

The nineteenth annual meeting of the Northern Illinois Dental Society will be held at Aurora, October 17 and 18, 1906. Write the date in your appointment book; "do it now," and be sure to attend one of the best dental societies we know anything about. A good program is assured. You help make the attendance good.

A. M. HARRISON, Secretary.

Rockford, Ill.

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**SOUTHERN ILLINOIS DENTAL SOCIETY.**

The annual meeting of the Southern Illinois Dental Society will be held in Centralia, October 23 and 24, 1906. The chairman of the Executive Committee assures us an excellent program and that a number of essays and clinics both interesting and profitable are to be reserved for this occasion. An interesting feature of the meeting will be a banquet. A most cordial invitation is extended to all ethical members of the dental profession.

HARRY K. BARNETT, Secretary.

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**INLAY CLUB NO. 2 OF IOWA.**

Inlay Club No. 2 of the Iowa State Dental Society held its first annual meeting August 2d at Waterloo. The session was in every way a most successful one and the membership of the club will undoubtedly reach the limit allowed by the State society.

Most of the members of the Inlay Club represent the northern part of the State, as Club No. 1 draws the dentists from the southern tier of counties.

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**NORTHERN INDIANA DENTAL SOCIETY.**

The eighteenth annual meeting of the Northern Indiana Dental Society will be held in Hammond, Ind., on September 18 and 19, 1906.

Arrangements are being made to make this the greatest convention ever held in Northern Indiana. Already some of the best talent in the country has been secured.

SAMUEL A. BELL, Secretary.

Hammond Building, Hammond, Ind.

# ABSTRACTS AND SELECTIONS

## THE PRACTICAL USE OF PORCELAIN.\*

BY C. M. WORK, D. D. S., OTTUMWA, IOWA.

For one to be able to understand this subject fully, it will be necessary to have a thorough knowledge of all the different materials which are combined to make porcelain, and this knowledge is made doubly essential on account of the many different uses which are made of it in the several arts and sciences.

However, it is not the purpose of this paper to give a detailed chemical description of this wonderful material, but rather to call your attention to some things that you already know, and, if possible, show that porcelain is no new material in the hand of the artisan, and to this end it will be but necessary to recall some of the uses, past and present, to which it has been put. It is supposed that the first use made of porcelain was in the manufacture of pottery, after which the builders began to use it in the shape of tiles for decoration, and now it is used to cover the entire outer walls of buildings. The foregoing uses to which this material has been put, of course, are more ancient than the manufacture of art goods, such as statuary and decoration, and electrical supplies and plumbers' goods.

If the foregoing has led you to contemplate the age of the material under discussion and the amount of skill that some people have attained in its use in the commercial arts, you will see that what knowledge we now have of porcelain is not due alone to the energies of the dentist. However little of the development of porcelain to its present stage of usefulness may seem to due to the researches of the dental profession, yet its use by this profession began when, in 1728, Fauchard, the French dentist, who is called the father of dentistry, used enamel in making artificial teeth for plates, and this was the only use made of porcelain by our profession until about fifty

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\* Read before the Southeastern Iowa Dental Society.

years ago, when crowns were made of it and attached to roots by means of wooden pegs; then came its use in crowns of other makes, until today there are as many, if not more, crowns made of porcelain than of any other material. If this is not so, I think it should be, for while cases may present occasionally where it would not seem prudent to restore the tooth with porcelain, these cases become fewer and fewer in proportion to the length of time we use the material.

At first the use of porcelain crowns was confined to the six anterior teeth, but as its usefulness became more apparent, its use was extended to the bicuspid and molars and now the best crown that can be made for a tooth, in the minds of a great many members of the profession, irrespective of its location in the mouth, is made of porcelain.

The next use made of this material by the dentist was in what is known as continuous gum work, and here it again seems to have demonstrated its superiority over other materials, as it has in its use in the other branches of the art, and while the writer has not had any clinical experience with porcelain in continuous gum work, the cases reported by members of the profession who have had experience in its use, are eminently satisfactory to both the dentist and the patients who wear them.

The use of porcelain in making inlays by a few progressive members of the dental profession, who had a desire for something better with which to save some teeth than the materials commonly used at that time, was the next branch of our art which this material was called to assist, and the extent to which it is being employed in this department of our work is wonderful, considering the short length of time that it has been used by any but a few whose faith was strong, which faith has in later years been proven to have been well founded.

The latest use that has been made of porcelain in dentistry is in the construction of bridges, and although the skill of many of us has not, and perhaps will never attain that degree of excellence which marks that of E. Parml Brown, Hart J. Goslee, George W. Schwartz and many others with whom you may be acquainted, yet we may with satisfaction both to ourselves and to our patients, restore teeth by this method.

To prove to you that the positions assumed in the preceding part of this paper are well taken and to what extent the use of porcelain is considered practical by the writer, it will be necessary

to take the subjects up separately again, and we will begin with the porcelain tooth used in plate work.

The practical use of these teeth is so apparent that none could give even one reason why anything that was ever used in their stead was better or even half as good for this purpose. These porcelain teeth are more cleanly, stronger, more beautiful in shape and shade, and admit of better arrangement, while to these sufficient reasons may be added that of the possibility of their being attached to any base and by any metal or substance which seems desirable to use for the purpose.

If porcelain has been of benefit to mankind in general and the dentist in particular in presenting itself for our use in artificial dentures, it certainly became a blessing to us all when we began to use it in restoring crowns to roots, and although it is not universally used for this purpose the fact that it is not more used is deplorable.

Porcelain crowns may be used and should always be used on all of the twelve anterior teeth, and where sufficient bulk of material can be secured they should be used on the bicuspid; especially is this true when the patient shows these teeth in laughing or talking. For what is more disgusting or more out of harmony with nature than a gold crown glaring at you like a pillar of fire by day and a dark cloud by night.

But the esthetic is not the only or all-sufficient reason that should be given; for the equally great advantage porcelain has in being cleanly is, in itself, sufficient to indicate its use, not to mention the fact that the gum tissue takes more kindly to porcelain than it does to any other substance used in making crowns; and the further fact that the use of bands may, in most cases, be eliminated, and consequently the interproximal space may be retained in its original proportions.

On molar roots which are badly broken down, and where it would seem that the root was nearly worthless, porcelain crowns will prove to be much more satisfactory than any other; but when placed on roots such as are deemed safe for other crowns they are surely a "thing of beauty" and will be as near "a joy forever" as any crown that can be made.

It is rather a difficult matter to state just how far the use of porcelain is practical as a filling material, for it has some qualities not possessed by the other materials which we use, and some of the

other materials possess one quality which porcelain does not. I refer to ductility, and the absence of this quality, precludes its use in filling cavities where great stress is going to be brought. However, this is the only disadvantage porcelain has as a filling material, and when we take into consideration its many advantages over the other materials we now use, I think that to say that porcelain is a practical material with which to fill teeth, is stating a fact but mildly.

In the anterior teeth there is no material so frequently indicated as is porcelain and unless the cavity is extremely small or the occlusion very strong, porcelain fillings may be made in all cases and the indication for its use in comparison to gold increases as the cavity is larger, for with porcelain badly broken down teeth may be restored, when without the use of an inlay they would be of necessity crowned.

I will not speak of the esthetic reason which makes porcelain desirable, as this matter has been taken up by Dr. Roach in his paper; nor will I take up the added advantage of the inlay over the common filling as a perfect cavity stopper, as this subject has been treated by Dr. Marsh.

The practical use of porcelain in bridge work has been demonstrated to the satisfaction of many, but if there is any place where it seems to be more indicted than another, it would seem to be in anterior bridges, which are not too extensive, and when the stress to be brought to bear is not too great.

In closing this paper it may be permissible to state that the extent to which it is practical to use porcelain depends altogether on the individual who is using it and the skill he has acquired; but there is no reason why every dentist, no matter where he is located, should not take up this very useful material and employ it among the others he now uses, but in so doing he must not think that he is beginning the use of something in which it is easy to acquire skill, for you can rest assured that more skill is required to work porcelain successfully than is required to work any other material used by the dental profession at this time and be further assured, those of you who have not taken up the use of porcelain, that you have yet to acquire the most fascinating branch of dental study, and one which, although it is yet in its early stage of development, has come to take a place in our art and one which will become a greater blessing to mankind as we acquire skill in its use.—*Tri-State Record*.

## A RATIONAL BASIS FOR COMPUTING DENTAL CHARGES.

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BY J. D. MOODY, D. D. S., LOS ANGELES.

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Probably the one question which troubles the young practitioner more than any other is what to charge for his work. And the same question ought to trouble the older practitioner much more than it does. The basis for our charges by which most of us have been working has first been shaped largely from the fear of competition. This places a low value on professional services. And, secondly, by individual whim, which, of course, would be no true guide to another.

The result of the first is a general uniformity of prices, but on a low plane, while that of the second is irregular and extravagant values. This has confused us, and we have gotten into ruts in this matter, and we will not do full justice to ourselves, to our patients or to our profession until we change our methods.

To this end I want to lay down this proposition—the only rational basis upon which to make our charges is *the burden imposed upon the operator*.

Each operator must, of course, have some unit from which to work. To the young and inexperienced practitioner I would say, find out what is about an average charge made for any particular kind of work by the better class of dentists in your community, then make that your starting point or unit. Suppose you find this average charge for a gold filling to be three dollars, then your fee unit is three dollars. Now, starting from this unit, build accordingly. From your short experience you will find that the average time consumed in filling the smaller cavities is, say, thirty minutes. This, then, is your work unit. Now, some day you fill four cavities for one patient. There is not a great deal of difference in the time consumed on each. The first requires thirty minutes, and the fee unit is three dollars. The next one requires fifty minutes. Ordinarily we charge the same. But why should we donate to the patient twenty minutes of time which has a definite value? This extra twenty minutes means just that much more of a burden to you. The rational thing to do is to add

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Read before the Southern California Dental Association, Los Angeles, Cal., November 6, 1905.

proportionately to your unit fee of three dollars—that would make this one four dollars.

Is not this a simple, rational basis upon which to work? Do you do it? Do the same thing in computing the charges for the other two. *Do the same for every patient, every time.*

Also follow the same rule in making your charges for artificial dentures, a gold crown or a porcelain inlay, in treating diseased teeth, devitalizing a pulp or performing any other operation which comes within our sphere. A patient will go to a physician with a simple abscess. He sticks a lance into it and charges a dollar for it and will repeat the operation as often as necessary and likewise the charge. You treat a tooth having a putrescent pulp once, twice, a dozen times. Do you charge a lump sum or so much per treatment in making the entry on your book? Do you see the point?

How can we get our unit for this work? A patient comes with a putrescent pulp in an incisor. You operate and dress the tooth once, then fill. This is usually one of the simplest of such operations. Now compute what is due you, and this sum is your unit for such work.

But supposing complications arise, or the pulp is diseased so that a number of treatments are necessary. In that case, to compute your fee start from your unit charge and add the additional burden to it. This burden may consist of time, of anxiety, or of back-breaking work. *Charge for the burden.*

Or suppose the trouble to be in the superior left first molar with three roots. Now, again, starting from the single root unit, add the additional burden which it entails to get the charge. But, once again, take a single-rooted tooth, as in the first instance, the tooth and all the surgical conditions being the same, but the patient is one of those nervous or irritable persons whom we so often have, and who so draw on our vitality that we feel prostrated when the work is done.

Here is the rule from which there should be no deviation—add the additional burden to the single root unit of the first instance of your charge.

In making two different artificial dentures the same rule should hold good if you are a professional man—but if you are only a mechanic it will be proper to saw them off in five and ten-dollar lengths.

Pursue this method in computing charges for all classes of your work, taking the simplest operation in each as your unit and adding to that in proportion as the burden increases.

Probably we err more in this direction in making amalgam fillings, in extracting teeth and in treating diseased teeth, than in any other part of our work. And consequently we suffer more from it than we are aware.

In all these cases the rule calls for most careful and conscientious adjustment in order that only justice to both operator and patient be done. As you grow in experience and reputation you should increase the value of your units. Make this change in method slowly until you can educate your patients to the fact that work means money to you.

I am not advising this method solely to increase our fees, nor claiming that we are underpaid. With such talk I have no patience. I am only trying to place our fee system upon an equitable basis, and upon what I believe to be the only rational one.

Every once in a while articles appear in our journals complaining of our fees, but presenting no definite plan for doing better than we are now doing. As an endeavor to meet this lack I present this paper. You will notice that any reference to the amount of fees has been kept in the background. This belongs to the individual and has no place in my scheme.—*Pacific Dental Gazette*.

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### ORAL HYGIENE IN THE PUBLIC SCHOOLS.

BY ALICE M. STEEVES, D. D. S., BOSTON.

The subject of my paper may cause a little surprise to some of the members present. You may think it a little too professional. However, I will explain that this subject of oral hygiene in the public and all other schools, is one very dear to my heart because of the vital importance to the health of the community. Owing to a change in the program of the American Academy of Dental Science, I am at liberty to tell you some facts that I had at first thought proper for professional circles only.

My president, President James, of the Northwestern University, called upon me a few days ago and I laughingly said, "Dr. James, the people of Boston seem to doubt my professional standing." He looked serious and then said, "Tell the world what you know."



We all feel that the duties of professional men or women are largely influenced by that knowledge of the human mind, of the human heart, and of the great world about us, ever increasing because we are ever devoting our efforts to expand the field of knowledge, to take in new territory, to discover and cultivate more fully the possibilities of the old territory, and thus to move forward to an ever expanding and ever rising and ever deepening comprehension of the universe of which we are such a small part. This I take it is fundamental to any profession.

And it applies especially to the dental specialist, and as time goes on and the law of evolution works its changes, I fancy that even in one short decade, when the charter members of the Boston Health Club will look back and smile at what seems to us today almost insurmountable difficulties, and will have discovered that the stumbling blocks were in reality stepping stones helping us onward and upward faster than we knew.

It may not be out of place to give you a short history of the development of dentistry.

The history of dentistry dates back to the time of Hippocrates, five hundred years before Christ. We are told that the Alexandrian Library contains medical and dental literature and that these arts were practiced by both men and women; but during that long period known as the dark ages, art and science were almost entirely neglected, and dentistry was not revived until about the seventeenth century. But scientific dentistry, strictly speaking, is a product of the eighteenth century.

England can justly claim the priority in the early part of the century, but as in many other sciences, America is now second to none.

Perhaps no one has been more instrumental in bringing this subject of oral hygiene into prominence than John Hunter of England, and the key note has been taken up and sounded all along the line, until men and women are talking here and there just as our own public school committee, our committees interested in the servant question, and the ways and means for the prevention of vice, are working. All these opportunities are directly around us and it is for us to say if we shall fold our hands and thank God that we are not as other men are, or if we shall honestly, cheerfully, and conscientiously do any and all work that many come in our way.

It is not manly, nor womanly, to show the white feather under any conditions, and now that we have put our shoulders to the wheel we must persevere, and the reward will come, perhaps not in the way that we think we want it, but in the way that is best for us.

As I said before, this matter of oral hygiene is becoming a popular question. Practical work has been done in Milwaukee; Philadelphia is considering the question and a course of lectures has been given preparatory to a definite plan of work.

My own individual work in this subject began in 1891.

I well remember listening to a long dissertation on the possible sources of infection in surgery by one of Boston's most prominent surgeons, at the Massachusetts General Hospital, to a class of medical students. Everyone was looking at the distinguished professor (and I say distinguished with the greatest respect), when a rosy cheeked nurse said, "Dr. Warren, the patient's mouth is filthy." And the patient's mouth was filthy with the accumulation of years upon his teeth.

From that time until this, I have personally examined *ten thousand* mouths and I find a very small per cent of the people who really appreciate mouth cleanliness. I do not mean surgical cleanliness but the ordinary cleanliness that comes from the frequent manicuring of those dermal appendages, the teeth.

How many parents, comparatively speaking, realize that no matter how sweet mannered and prettily dressed a child of ten or fifteen years of age may be, if the faintest smile reveals a row of badly kept, uneven teeth with cavities filled with the products of decomposition laden with the germs of tuberculosis, diphtheria and scarlet fever, three of the contagious diseases most fatal to the youth of our land, waiting for the time when the little patient may be reduced in bodily vigor to enable them to run their life course in a well developed case of the disease.

It is a well proven fact that tuberculosis of the glands of the neck is often due to the neglect of the lower molar teeth. The cavities harbor the germs, which lose no time in finding their way down the undeveloped root canals to the glands of the neck. Therefore how many almost irreparable evils result from a little neglect?

A deformed face, impaired digestion, with all the consequent nervous accompaniments, a system infected with that dread disease,

tuberculosis, and if the child recovers its health, it is only after much suffering, a surgical operation, and a scar as a souvenir.

What can we do to teach mothers the serious results of the crowded condition of the teeth found in so many instances, caused by loss of permanent teeth, either directly or indirectly.

It causes a narrowing of the face, a contracting of the nasal passages which in its time causes mouth breathing; these conditions aid catarrh and enlarged tonsils; all these conditions are often present in one child and part of them in 90 per cent of all the children in our land.

My opportunities for examining the conditions in the public schools began in 1897, the year of my graduation in dentistry.

I was then doing clinical work in one of the medical schools of Chicago; a bevy of girls came into my clinic, happy and careless of the cares of the world; they were admitted in turn to the examination room, and each in turn said, "Doctor, I want my tooth out, it aches."

On inquiring into the history of these girls, I learned that they were high school girls of respectable families. I thought, "here is my chance to get at school statistics," so I began, and have been working ever since in that line.

Some months later I was put on a school committee in relation to hygiene, so my opportunities grew until I have visited public schools from the Atlantic to the Pacific, and I find that in relation to oral hygiene there seems to be little difference in the various cities that I have visited, but in relation to the school houses themselves, there is considerable difference. It was only last week that a committee reports that Boston school houses were the dirtiest school houses in the country, and my observation bears out this report; of course we must take into consideration the various conditions, but the spring house cleaning from attic to cellar would not harm most of them.

You are spending your money to secure good hygienic conditions, but all the fresh air you can force into a school room by the latest ventilating apparatus will only dilute the fetid odor so long as forty or sixty unkempt mouths and catarrhal noses are exhaling the products of decomposition. Boston made an effort in this direction more than a year ago under the auspices of the Associated Charities, and I find the names of Dr. Charles Putnam, Mr. Robert

Treat Paine Sr., and Mr. Macuskin, as the prime movers of this work. A leaflet was prepared to be distributed among the school children of Boston, but the school committee did not see fit to take any action in the matter.

They showed their appreciation of dental ethics in not accepting the leaflets as presented, but it seems as if an amendment might have been made, because physicians surely can not gainsay the need of clean mouths in infant or adult.

The popular objection raised by the school officials of Boston to this important item in the daily life of the child is that we must not encroach upon his individual rights. *"He must learn to keep his mouth clean at home."*

Well, suppose we said that of all other things, how far would education go? Where does the individual right of child begin and where does it leave off?

There is one thing, self defense is a great protector. Therefore, you as individuals, have the right to say that you will not permit anyone with the filthy odor of cavities, old roots, diseased gums and catarrhal noses to come sufficiently near you to vitiate the air that you breathe. If every woman here would look to these things, what a change would be wrought.

In closing, it is hardly necessary to repeat that you, individually, can do much. You will remember that when Cæsar was on his famous march to the east, he found it necessary to cross incognito in an open boat from Italy to Greece. The waves ran high, the wind was furious, and it seemed, more than once, as if the bark would be overwhelmed, and finally the oarsmen determined to put back to the shores of Italy, and no amount of expostulation seemed to have any effect upon them.

When the last appeal was made, Cæsar cried out, "You carry Cæsar and his fortune." The consciousness of this great burden, this great opportunity, this great obligation, steeled the arm and fired the nerve of those simple sailors to continue the voyage and land the future ruler of the world on the shores of Greece.

These men were carrying Cæsar and his fortune in no truer sense than you, as you go out into the world, are carrying the health of the future citizens of Boston.

For courtesies extended, I am much indebted to Mr. Robert Treat Paine Sr., Mr. Seaver, superintendent of schools, Mrs. Duff, of school committee.

DENTAL NEURALGIA.

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BY J. M. WEEMS JR., D. D. S., SHERMAN, TEX.

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We may have pain from a variety of causes along the lines of the fifth pair of nerves in any of the branches, but especially of the second and third branches of this nerve. Indeed, any of the branches of the fifth pair of nerves are very liable to neuralgia from causes entirely occult, systemic and perhaps constitutional in their origin, or from disease of the nerve trunks; and these are very readily confounded with pains arising from a diseased tooth pulp. It is necessary that we be able to designate as well as possible pains arising from these various causes. Neuralgias occur in a particular class of individuals that are known as of the neurasthenic diathesis. Many persons seem to have been born with a condition of nervous system that renders them continually liable to neuralgic affections. A condition similar to this may be acquired by individuals who become anemic from any cause; overwork in any direction almost may reduce the general vitality and particularly the conditions of the nervous system and give rise to a condition in which the person is liable to neuralgic affections. In these conditions disease of the tooth pulp may give rise to a true neuralgia. In considering any of these neuralgias it will be necessary first to exclude reflected pains arising from the tooth. You will find that physicians will frequently send to you patients for this especial purpose with the inquiry, "Is there any condition of the teeth that is liable to give rise to the pains of which this patient complains?" It's your duty to find a cause in the teeth, if there be one there, so as to exclude disease of the teeth as a guide, perhaps, to the physician; or if you find the cause in the teeth, it's your duty to remove it. We rarely have a true neuralgia arising from the teeth, except in individuals who, from their nervous condition, are particularly prone to neuralgias. In these cases peripheral irritation, continued as we have sometimes in the tooth pulp, does give rise to true neuralgia pains extending along the line of trunks of nerves, passing from the third branch to the second branch, or from the second branch to the third branch. Usually in neuralgias from occult causes the pain is confined to one of these branches, but not always. In dental neuralgias

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Read at January, 1906, meeting of the North Texas Dental Society.

they are rarely confined for any considerable time in one branch—i. e., the second or third—but generally both branches are affected by dental neuralgias. In neuralgias from occult causes, or from disease of the nerve trunks primarily, we almost uniformly have the pain appearing upon the skin. The skin, when touched, or a breath of air upon the surface, will give rise to a paroxysm of pain. This is not the case with neuralgias occurring from the teeth; the pain does not appear on the face, skin or surface; it is deep-seated, as a rule. You will often find a deep-seated tenderness at the inferior dental foramen and at the infra-orbital foramen, or pain upon pressure, an extra sensitiveness in dental neuralgias. This makes quite a contrast between dental neuralgias and those that occur from disease of the trunk of nerves, or from occult causes. Cases of dental neuralgias usually come up slowly, and these are liable to be aggravated at night in the recumbent posture. Sometimes the influence of the blood pressure is such that when a person is on foot, or sitting, there is no pain, but when in the recumbent position the extra blood pressure induces pain, and the pain is very liable to be felt in the ears—a very common point. Then as the case grows older the duration is longer; it is liable to be felt down the neck of the affected side, passing to the chest or arm. Often in connection with this class of pain you find a tooth that is sensitive to thermal changes. When it is irritated by thermal changes you find paroxysms of neuralgic pain occur, and you have found the cause of the neuralgic affection. The pain is liable to be more severe after eating or taking cold or hot drinks, and these symptoms point to the teeth particularly. You may have to search carefully and long to find the individual tooth where these symptoms appear, as the cavity may be hidden between the teeth or on the approximate surface of some tooth, or the gingival border, or it may be on the buccal surface and covered with the free margin of gum. In various ways the cavities are hidden, for if not hidden the patient is liable to find the cavities themselves and correctly locate the seat of trouble. If a tooth has recently been filled the patient is liable to charge the pain to that tooth, and in various ways deceive themselves and the dentists. The treatment of such cases is usually consummated by the devitalization and treatment of the offending pulp, or tooth. The pain may not abate immediately; if it has run so far as to extend down to the neck and arms it will continue for some days, but not long.—*Texas Dental Journal.*

## WITH OUR EDITORS.

FROM DENTAL REGISTER.

### THE WHEAT AND THE CHAFF.

*"Any position in life, however great or small as the world goes, can be made creditable by its occupant measuring up to the full standard of duty well performed."*—Judge J. P. Phillips.

The above advice is alike applicable to the dental practitioner, to the dental student and to the dental teacher. It matters not whether the reader is a teacher, a student or a practitioner; it is alike true that he who measures up "*to the full standard*" does all that the times and the occasion demand. In order, however, that such standards can be reached, it is also true that each teacher, each student and each practitioner shall sift the "wheat from the chaff," and with a rare pertinacity, smother prejudice, which may perchance be, and often is, individual, and not up to the standard of the best duty which should be performed. In dental progress, it seems to the writer, that such a course is often lost sight of. The status of the profession, the theoretic in the profession, the etiologic in the profession, the improvements in practical dentistry, and the great changes which are constantly taking place in all methods conducive to the cure or amelioration of dental discomfort, are too often considered as vagaries, because of the dislike for careful investigation and because preconceived ideas and methods are so well established, or because a man's reason has been smothered by a preponderance of high-sounding words and names. To all of these we would say that if you measure "*up to the full standard*," that standard must be one acceptable to the intelligent majority of the profession of which you are a member, and if you do not do this, your duty will not be *well performed*.

There never was a time in the progress of the world where individual opinion, if backed by intelligent and educated logic, receives more consideration. I care not what your arguments may be, if its postulates are undeniable, they will receive credence; not all the wisdom of the world is found outside of the dental profession, and new propositions will obtain in our profession credence according to their deserts, and your duty *well performed* will embrace their consideration.

Separate the "wheat from the chaff." Be not the slaves of textbooks or dental writers, nor be their unreasoning critics. If writers insist upon the acceptance of hypothesis that are prejudged, born of vague longing, and not the outgrowth of up-to-date economy of science and life, weigh them in the balance, and if found wanting, sweep them along with the chaff. The teacher's duty, the preacher's duty, the

practitioner's duty, is not well performed unless it is accomplished without false science or the false ethics of medieval times. The dental reader or teacher is today confronted with a lot of chaff among the wheat, e. g., a prominent writer in a prominent journal, *The International*, writes as follows when referring to the education of the dentist: "His training must be given under the guidance of scientific teachers, non-practitioners, men of productive scholarship, men who devote their lives to the special work of teaching the various subjects which are embodied in a medical education, instead of those who give instruction during the intervals of a busy practice." "Without the requisite medical education, the ordinary mechanical expert is not competent to practice his profession." In the foregoing extracts from the pen of Dr. H. P. Carlton, of San Francisco, we have the gist of the argument a number of dental writers, most of whom are members of the Section on Stomatology of the American Medical Association. In the position as stated by Dr. Carlton, surely none can take exception to the statement that we should have "scientific teachers," "men of scholarship," and thoroughly competent for their special work; but when we are informed that they *must be non-practitioners, instead of those who give instruction in the intervals of a busy practice*, we come to the "chaff" of the statement. By whom has it been proven that the practitioner who teaches is not usually the scientific man and the scholar? The intimation is an unjust one, and we also earnestly incline to the opinion, and the opinion is reinforced by observation and experience, that the dental teachers who are not in active practice soon become imbued with just such "chaff"—become attached to obsolete methods, and are prone to grade themselves a notch higher because relieved of the tedium of actual practice, when in fact they are likely to be retrograding in their ability to teach when compared to the man in active practice. The coterie of "stomatologists" who look askance at the practitioner of dentistry without the M. D. degree, and who believe that if all dentists were first M. Ds., the fact *alone* would give us status not now ours, are of the class with Dr. Carlton, and are given also to damn mechanics "with faint praise." We believe that these efforts will make less possible the best returns to our patients whom we serve; and that the "true duty well performed" will be in accepting the triune of theory, science and practice as of equal dignity; and that the fine arts and mechanics enter into all science, into biology, into chemistry, into surgery, into therapeutics, into repair of tissue, just as they originally have done in the creation of tissues. "Separate the wheat from the chaff."—*J. D. Patterson, in Western Journal.*





# EDITORIAL

The Michigan State Dental Association held its meeting in Detroit, July 9, 10, 11, 12 and 13. In the State Dental Association, of Michigan, are to be found some of the most progressive dentists in the country, and they had a fine program of both papers and clinics. Among the papers that were exceptionally good, was one by J. H. Prothero, of Chicago. This was an experimental paper on some of the behavior of plaster of Paris. Those who are at all familiar with Prothero's work can not fail to see the great value of it, and especially that part which bears upon the fundamental principles of prosthesis. Prothero's work will undoubtedly lead to much good in bringing about a better material for making plaster of Paris impressions and models. Jimmy is a regular wizard when he gets at a problem of this sort. May he continue in this good work.

Dr. E. P. Loeffler gave a fine paper on "Modern Dental Remedies." It is a paper which, when published, will be worthy of attentive study. The contribution given by Dr. Loeffler is one which will last among the literature of dental therapeutics, and we wish to congratulate him on his observations and thoughtful applications of certain remedies for dental use.

Dr. W. T. Reeves, of Chicago, gave a good paper, the title of which was "Why the Profession Should Adopt Porcelain As a Standard Filling Material." Of course, as we all know, Dr. Reeves has added much to the interest of porcelain inlays and his enthusiasm has been the means of many taking up porcelain inlay work. Dr. Reeves' interest and enthusiasm, however, has lead him to make many broad statements which can not be carried out by all the profession in the same way that he can perhaps apply them himself. Nevertheless, we all admire him for his work and for his skill to accomplish some of the things which he feels he can fulfill on any and all occasions. We have read the addresses and discussions of many of Dr. Reeves', and have derived a great deal of pleasure and profit from some of them, and from none any more than the one given at the Michigan State meeting.

Another paper at the Michigan State meeting that created considerable interest and discussion was one by Dr. D. D. Smith, of Philadelphia, the title of which was "The Necessity of Reform in Dental Teaching." During the reading of the paper and its discussion, Dr. Smith made some remarkable statements, and if every teacher in dental colleges could see the matter as Dr. Smith apparently does, there would certainly be a great need for reform in both our teaching and writing. One of the remarkable statements of Dr. Smith's was to the effect that our teeth were of no value except as a means of pleasure derived from them. This is a remarkable observation that Dr. Smith has made in the face of what the best physiologists teach us. For instance, in Prof. George Neal Stewart's physiology the author tells us that the teeth are the principal means of the division of food in the oral cavity, and mixing this material with the saliva in order that the digestive properties of the saliva may come in direct contact with the greatest amount of food. If Dr. Smith's observations are correct, it is remarkable that anatomists and physiologists have erred so in their observations upon the value of these organs of the oral cavity. Further, what would be the use of continuing the study in comparative anatomy and especially that part pertaining to the teeth? Paleontologists would then not need to study the fossil remains of extinct animals and discuss as to whether herbivorous, carnivorous or omnivorous animals lived at certain periods of the formation of the earth, and try to deduce from these the kind of food these extinct animals lived upon and thereby make deductions in the evolutionary processes of the animal kingdom in order that they might elucidate certain facts pertaining to prehistoric times.

Another remarkable statement that Dr. Smith made in the discussion of his paper was that the salivary glands did not furnish any secretions in the mouth except under stimulation, in other words, that the mouth was freed from the glandular substance except when digestion was going on or some other stimulating process. Dr. Smith's observations differ from those of Sticker, who found that the saliva coming into the mouth between meals and under normal circumstances differed somewhat from that discharged during the process of mastication. The word, normal, in this instance, would mean the saliva flowing from the glands without any special means

of stimulating the salivary flow. This would indicate that he has observed that the saliva may, and beyond question does, appear in the oral cavity as a normal product without any stimulative process. We must admit, however, that the active process of salivation is during the taking of food. I can not believe that Dr. Smith's remark was meant to be taken in the sense that it appeared, because it is an observed fact that a person lying down and quietly sleeping when all the body, muscles and brain are at perfect rest, he will be seen to swallow. It is also observed that while a person is in this quiet attitude the saliva will run from the corner of the mouth, showing that saliva has flowed from the glands under perfect physiological rest.

Another interesting statement of Dr. Smith's was to the effect that pyorrhea alveolaris was not a disease process, but was an inflammation. If inflammation is not a disease, then why has there been so much time devoted to the study of cellular changes of the tissues in inflammation? One authority says, "Inflammation may be reactory and reparative, some forms being destructive and causing degeneration." Geo. Adami has devoted many pages to the discussion of the changes that take place in tissue under inflammatory conditions. If pyorrhea is only inflammation, it is unquestionably a disease just the same. It is through the study of inflamed tissue following up the disease process as far as possible, coming at last upon the diseased cell, that Virchow established his so-called cellular pathology, thus establishing one of the biological phenomena of disease processes. Therefore it would appear that Dr. Smith was in error in this particular statement.

As was stated before, this paper of Dr. Smith's was a remarkable one in that it brought out so many points for discussion. Of course, the main point in Dr. Smith's paper was to reiterate the importance of prophylactic measures as a means of saving the human race. Dr. Smith's contentions of prophylaxis has been held by all progressive dentists, except that he has adopted the word "prophylaxis" instead of "oral hygiene." The word, hygiene, as usually accepted, is the means of removing and keeping out of the way agents which are harmful to the higher forms of life, and especially as applied to man. Prophylaxis, as applied by medical men, is the use of some remedy, usually a medicine, taken or put in the system to prevent the rise

of disease, as for instance, the injection of antitoxin in a healthy person who has been exposed to a contagious disease. This would be considered prophylactic measures, while the removal of the diphtheretic germ from the tonsils by a so-called solution prepared for that purpose would be considered hygienic means. The removal of the exciting cause of the disease is usually looked upon as hygienic measures. One authority says that "hygiene is undertaking the task of removing the injurious influences which may cause disease." In the ordinary way these terms are used and in the definitions given in most of the dictionaries there seems to be but little difference, but as the application is made in medical practice one is removing the cause, and the other is the preventing of the disease process from becoming established when the process of the exciting cause is known to be an inhabitant of the individual. So the name that Dr. Smith has adopted to his so-called prophylactic measures is no more than the application of the word oral hygiene. This word has been universally adopted in all of our previous congresses, and is a term which is used in the ordinary sense of removing bacteria from the oral cavity in order that they may not be destructive agents to the tissues in that locality. If we should adopt agents that would restore the tissue, tooth structure, or any other tissue in the mouth to a state of immunity, we would then be recognizing prophylaxis. But in Dr. Smith's application of the term he simply removes bacteria from the oral cavity or the parts of the tissue of the mouth where it is most likely to produce injurious effects, accomplishing this principally by mechanical means. Therefore it would seem that this would be considered hygienic rather than prophylactic. It may seem like presumption on my part to discuss these points which Dr. Smith has so ably presented on many occasions.

Oral hygiene and oral prophylaxis are two subjects which the dental profession will have to reckon with in the future far more than they have in the past, but the fundamental principles that lie out and beyond the mere problem incidentally is the only way that the subject will ever become a truly scientific one in the truest acceptance of the term science. We are dealing, as a rule, with the terms in a dogmatic manner, making statements many times not founded on true science and our base of reason is not drawn from facts of true biological phenomena. There is no great force in the *tu quoque* fundamentals.

We can no longer use the biological science bequeathed to us by Aristotle, Theophrastes and Galen, but we have to look to the great scientific workers, the army of which is growing so rapidly that it makes it quite impossible for any one to establish a working knowledge of any one branch of the sciences, unless he is well equipped and surrounded with all the necessary means to investigate and study all the points brought forth in a particular science.

In my discussion of Dr. Smith's work and his paper I do so in the most friendly manner, and with a hope that it may help all to a better understanding of what the real needs of our professional calling means. Dr. Smith's statement that the oral cavity is the place to which we look for the greatest destruction of life and health is beyond question true. There is no other part of the human anatomy which contains as much destructive influence as the human mouth, still, at the same time, through all ages and climes all parts of the earth have been inhabited, and people have lived in various localities without a vestige of possibility of protection from the forms of life that we recognize as dangerous. Therefore our principal duty should be to study the cause and combat the effects of disease. I think, beyond question, that Dr. Smith is doing as much in this direction as his strength and energy will permit him to do, and we thank him for his strong and vigorous life and brain being thrown in the field of work that he is now engaged in.

The Michigan State Dental Association closed its session with the afternoon of the last day being devoted to a boat-ride given by the profession to the families, friends and visitors of those who cared to take an opportunity of the pleasant associations of that afternoon. The Detroit dentists are certainly entertainers and are not only willing to do, but know how to entertain a party in the most attractive manner.

G. W. C.

## MISCELLANEOUS

### RENEWING ZINC.

When zinc used for dies becomes thick and does not pour well, melt to dull red heat and add a tablespoonful of strong hydrochloric acid while stirring.—*Dental Register*.

### RATES TO NATIONAL MEETING.

The railroads have made a rate of \$21.55 for the round trip from Chicago to Atlanta for the meeting of the National Dental Association September 18.

### VICE VERSA.

The old theory that a bad stomach affects the teeth is rapidly giving place to the new theory that a bad stomach, instead of causing bad teeth, is caused by bad teeth.—*Dental Era*.

### TIME TO APPLY BORAX.

Apply the borax and solder before heating, and heat as far as possible over a good flame before applying the blow-pipe.—*L. P. Haskell, Dentists' Magazine*.

### CEMENTING INLAYS.

To maintain pressure on inlays in proximal cavities until the cement crystallizes, spring a piece of nursing bottle tubing between the teeth. Allow it to remain until the cement has set.—*Oliver Martin, Review*.

### TO SOFTEN CALCULUS.

Before removing salivary or serumal calculus it will be found advantageous to apply tincture of iodine. A few treatments of this will tend to disintegrate the deposit and thus facilitate its removal.—*E. M. S. Fernandez, Chicago*.

### THE BANDLESS CROWN.

If in fitting the bandless porcelain crown to the root, the same care is taken as in fitting a band, the operator can reproduce the natural crown of the tooth in every way, a crown as near perfect as any crown can be.—*U. M. Richardson, Dental Review*.

## REACHING HEAVEN.

"Heaven is not reached by a single bound,  
But we build the ladder by which we rise  
From the lowly earth to the vaulted skies,  
And we mount to its summit round by round."

—*Exchange.*

## OPENING LARGE CAVITIES.

Employ a chisel and hand mallet to break down enamel walls. A slight tap will accomplish what would otherwise require much hand pressure, and without so much danger of the chisel slipping and injuring the soft tissues.—*Oliver Martin, Review.*

## TREATMENT FOR CANKER SORE MOUTH.

I have found the full strength aromatic sulphuric acid almost a specific for this condition. I prescribe internally tincture of ferric chloride gtt. v.; potassium chlorate gr. iii.; water  $\frac{1}{2}$  oz. every three hours in lemonade.—*J. E. Power, The Tri-State Dental Journal.*

## GOLD CROWN LOCATION.

It, of course, is the opinion of nearly all of us that the uses of gold crown further forward than the first molar or second bicuspid are rare indeed, and often in these cases we can with good results bring into use the porcelain facing.—*D. A. House, Dentists' Mag.*

## REPAIRING GOLD CROWN.

To repair a gold crown that has a hole worn through it, drill out the hole, parallel the side walls with good cement, make a matrix of platinum and make a gold inlay. Cement to place and finish.—*Dr. H. H. Gantz, Albia, Iowa.*

## TO PRESERVE RUBBER.

One part of ammonia in ten to twelve parts of water will preserve soft rubber. Dip rubber pipes, etc., in a glass jar filled with this solution. For the ammonia bottle use a rubber stopper; it is better than a glass one.—*Cosmos.*

### THE THREE PRINCIPAL ADVANTAGEOUS FEATURES OF PORCELAIN OVER GOLD.

First, its quality as a preservative of the teeth; second, its application is effected with much less exhaustion to both patient and operator; third, its almost ideal harmonious effect in matching the natural teeth.—*Henry G. Raymond, Dental Register.*

### STERILIZING INSTRUMENTS.

I use equal parts of alcohol and formalin for sterilizing all sharp instruments. If left in this solution for five or ten minutes, they will be perfectly sterile and not harmed by corrosion. Other instruments I first scrub with Sapolio and then boil in soft water, with a little soda in it.—*W. H. Whitslar, in Summary.*

### DIED FROM EFFECTS OF CHLOROFORM.

Mrs. Anton Williamson died in the chair of a dentist in Osage, Iowa, April 4th, after chloroform had been administered for extraction of teeth. One tooth had been extracted when the heart ceased beating. Upon reviving she complained of pain and, again losing consciousness, died before a physician could reach her.

### INTRADENTAL SPLINTS.

The interdental splint—either vulcanite or metal—is the most universally applicable splint, for with slight modifications it may be successfully applied to fractures of either the maxilla or the mandible, and to those involving any portion of the mandible from the symphysis to the neck of the condyle.—*H. DeW. Cross, Dentists' Mag.*

### THE PORCELAIN INLAY.

The fact that porcelain has a greater range of application, is more permanent, more compatible, harmonizes in color better, is more sanitary, and requires less physical exertion upon the part of both patient and operator than any other material, will force its universal adoption in time.—*F. E. Roach, Dental Digest.*

### RETENTION OF DENTURES.

If possible two roots should be left in each jaw and utilized to support the plate. A satisfactory method is to fit each such root



with a gold cap and tube, into which fit a pin attached to the plate. The stability which even one root so treated will give to an entire denture is surprising.—*Wm. M. Gabriel, Dental Record.*

#### A HOT BRICK.

A common brick is the best thing to warm rubber on before packing. It holds heat a long time and the rubber *will not stick* to it.

Don't get a smooth one, just a common red brick, and you will wonder why such a good thing wasn't found out before.

Springvale, Maine.

O. F. BRIGHAM.

#### MUMMIFYING ROOT-CANAL FILLING.

A mummifying root-canal filling that has been recommended consists of a liquid composed of equal parts of formaldehyde and creasote and a powder consisting of 5 parts thymol, 12 parts dry alum, and 40 parts zinc oxide. If the liquid should be cloudy, a few drops of alcohol will clear it.—*Stomatologist.*

#### THE GOLD MATRIX: PROTECTION FROM FUSING.

It is not necessary that any matrix be invested; when gold is used it is protected from fusing by coating it, preferably with rouge because of its great fineness and affinity for a smooth surface. The rouge is bought in powder and spatulated with alcohol and water. It will resist heat to an astonishing degree.—*W. A. Capon, Items of Interest.*

#### PROTECTION FOR PORCELAIN DURING SOLDERING.

When circumstances make it necessary to near-by soldering to invest crowns or bridges porcelain-face up, cover the porcelain with thin asbestos paper saturated with the investment mixture, catching the free ends in the body of the investment proper. The paper protects throughout the operation from the direct action of the flame.—*Office and Lab.*

#### SENSITIVE CAVITIES.

For sensitive cavities previous to excavating, I have found an application of the following very effective: Zinc iodide crystals, 1½ grs.; iodide crystals, 2 grs. Make a solution of this in glycerine. Wind a small pellet of cotton on the end of a broach, dip it in the solution and apply it to the decay. For removing the stain use peroxide of hydrogen.—*E. M. S. Fernandez, Review.*

**SUPPORTING A SORE TOOTH WHILE DRILLING.**

Instead of supporting a sore tooth by ligature to prevent pain while it is being drilled, take modeling compound, soften it and make a splint for both lingual and buccal sides of the teeth to support the sore tooth while drilling. This will prevent jarring and also prevent pressure on the inflamed peridental membrane.—*T. L. Gilmer, Dental Review.*

**SODIUM DIOXID.**

Sodium dioxid is chiefly employed in dentistry as a bleaching agent, but will, through its alkaline and caustic properties, obtund sensitive dentin. The only safe way to use sodium dioxid for either purpose is to make a saturated solution in water, as much heat is generated, sometimes accompanied by ignition, when the dry powder is brought in contact with moisture in a tooth.—*Brief.*

**MIXING AMALGAMS.**

When an alloy is amalgamated and the excess of mercury removed by squeezing, an unknown quantity of the constituents of the alloy is removed by the mercury, depending upon the solubility of the metals in mercury. To obtain the best results they should be mixed with a definite quantity of mercury, and under no conditions must excess of mercury be used, and the excess to be removed by squeezing.—*F. J. Brislee, Dental Record.*

**TO REPAIR A BROKEN TOOTH IN A GUM SECTION.**

Grind out the broken tooth from the section, even with the gingival margin, then select a plain vulcanite tooth of proper size and shade and grind to fit the space. Pack in fresh vulcanite around the pins of the tooth and vulcanize as an ordinary repair case. If a little care has been used in making the joint at the gingival line, the job can not be detected from a full new block.—*F. H. Wilkinson, Dental Summary.*

**ADVICE TO PATIENTS.**

There is only one way in which I can bring people to appreciate the value of cleanliness in the mouth, and that is to tell them that they would not sit down at a table to eat with knives and forks that were one-tenth as dirty as their own teeth are, and still they have their teeth in their mouth all the time. That comes nearest of anything I have found to bringing them to their senses.—*E. A. Royce, Review.*

## TREATING ROOT CANALS.

For a number of years in the general practice of treating root canals in which abscesses had been formed the chemical agents used were various preparations containing principally the volatile oil series, which, as is well known, have no special power of disinfecting, and really have but little value as antiseptics. They are extremely irritating to the tissue cells, and many times sufficiently stimulating to the bacterial forms of life as to produce cell proliferation in those organisms, thus producing an increased number of bacteria instead of diminishing them.—*Dr. G. W. Cook, Era.*

## CAVITY MARGINS FOR INLAYS.

Every portion of the cavity, and in particular the edges, should not only be well shaped, but brilliantly polished. With small Arkansas stone points a beautiful finish can be obtained, which should extend over the edges, giving everywhere in the neighborhood of the cavity a polished surface, from which it is easy to remove the matrix. It is folly to attempt making a perfect matrix against a sharp, uneven or rough edge, or to expect always to remove it without accident from a cavity around which rough surfaces have been left.—*N. S. Jenkins, Elliott's Quarterly.*

## TO REMOVE RUST FROM INSTRUMENTS

*Pharmaceutische Centralblatt* prints an effective process for removing rust from surgical instruments. The instruments are placed overnight in a saturated solution of stannous chloride, which causes the spots to disappear by reduction. The articles are then rinsed in water, laid in a hot solution of soda soap, and dried. It is well to rub them with absolute alcohol and prepared chalk. Another convenient method for removing rust is to lay the instruments in kerosene. Paraffin oil is the best preservative against rust, and the most convenient way of applying it without getting an unnecessarily thick coating is as follows: One part of the oil is dissolved in two hundred parts of benzine, and the objects, after being thoroughly dried and warmed, are plunged into the solution. Instruments with joints, as scissors or needle-holders, are washed in the fluid, in order to cause it to penetrate into all crevices, and the benzine is then allowed to evaporate in a dry room.—*British Dental Journal.*

## TO GEORGE W. COOK.

Hail, our conquering hero, hail—  
The crown will fit thy brow,  
True merit must prevail—  
Wear it, thou.  
Keep thou the gems well set,  
Upon thy noble brow—  
And thy future life will be,  
As pure and clean as now.  
Accept our grateful hearts,  
Thou hast made a record clean—  
You have won the prize at last,  
You are now our worthy Dean.

C. K. HOWARD.

## TREATMENT OF PYORRHEA.

First inject into the pockets a few drops of a 15 per cent solution of cocaine until the tissues are anesthetized; then with a set of Young's pyorrhea instruments, as revised by Dr. Good, I go up, if necessary, to the end of the roots, being careful to remove perfectly all of the calcareous deposits at the first sitting, and when I am satisfied there is nothing left I polish carefully and inject into the pockets a few drops of pure lactic acid two or three times a week until results are produced, which are slow in some cases, but always sure. I then instruct the patient carefully as to the correct way to brush the teeth and gums. To say the least of it, I believe and hope I am effecting cures along this line.—*Dr. J. H. Nicholson, Era.*

## PYORRHEA ALVEOLARIS.

A line of "continuous, mild medication" which has proven efficacious consists in placing silver bands about the roots of the teeth, to furnish silver salts for their typical effect.—*W. V. B. Ames, Dental Review.*

Coffee is a good antidote for acetanilide. This should be mentioned to patients when prescribing it, as it may prevent much harm, and save life.—*Dr. J. A. Burnett, Medical Brief.*

A small amount of acetanilide put in the hollow of an aching tooth will quickly relieve it. Guaiacol is superior to acetanilide for toothache, and should always be used in place of acetanilide, when on hand.—*Dr. J. A. Burnett, Medical Brief.*

## NITRATE OF SILVER.

For ten years I have made it a rule to see that all the teeth were given a good treatment with a saturated solution of nitrate of silver, as soon as possible after eruption. I simply dry off the surfaces and put on the solution with a small swab, letting it stay a minute, during which time I push it with an explorer down into the sulci. I give this as an invariable rule, carried out with great success for the above length of time. Decay is generally prevented, or when it does occur is greatly delayed.—*Harry F. Hamilton, International Dental Journal.*

## ON THE MANIPULATION OF CEMENTS.

In mixing cements, be quick and active. There is a tendency in the profession to mix cements too thick. Get away from that tendency; get away from it as far as possible. The kneading or working with the fingers of a mixture of dental cements prior to the introduction into a cavity is all wrong. Fill your cavity flush and let it alone. Don't constantly disturb it till you can not disturb it any more on account of the advanced stage of crystallization. If you agitate plaster of Paris while it sets it gets crumbly. Please apply this fact to dental cements. If you introduce dental cement in the right consistence it will exhibit a glossy surface when set.—*D. Maurice Albrecht, Dental Summary.*

## A NATIONAL DENTAL LAW WANTED.

A movement to obtain a national dental law, such as will permit dentists who have met standard requirements to practice in any State in the Union, was launched at the thirty-eighth annual meeting of the Seventh District Dental Society of New York. The action followed the reading of a paper on "Dental Legislation and Interstate Comity," by Dr. W. A. White, of Phelps. In his paper Dr. White made the suggestion that a national examining board be formed, from which all dentists prepared to do so might receive a diploma entitling them to practice in any State in the country. There was much discussion of the question, and the resolution that follows was adopted: "Resolved, That a committee be named to confer with the State society, with a view to the appointment of a member from each State society, all of whom shall meet in an interstate convention and formulate a uniform interstate dental law."—*Brief.*

**SANITARY BRIDGEWORK.**

That a fixed bridge is never indicated I am not prepared to say, but that the removable bridge has a wider field, with greater possibilities and many advantages, I am thoroughly convinced. We have incomparably a more sanitary denture, greater possibilities of restoration of the lost tissues, whereby more natural and artistic results are obtained. Repairs are made easily and any subsequent repairs upon adjoining teeth are more simplified and less destruction of natural teeth is required for abutments. Another advantage of no small importance is the fact that good, serviceable and artistic bridges may be made with vulcanite at a moderate cost, but the ideal material for this class of work is porcelain.—*F. E. Roach, Review.*

**METHOD OF MAKING AMALGAM DIES.**

Amalgam dies have become very popular for constructing gold and porcelain inlays, copes for crowns, and for building up teeth that have decayed far below the gum margins, with gold.

Take an impression with pink base-plate gutta percha in the following manner: Moisten the tooth and cavity with glycerine. Soften the gutta percha over an alcohol flame, being careful not to blister it, and force the gutta percha into the cavity with a broad instrument. The glycerine will prevent the gutta percha from sticking in the cavity. Flow a stream of cold water over the gutta percha to harden it; carefully remove, and if the margins are perfect mix a small quantity of plaster, build it to a pyramid on a glass slab and invest the impression by forcing it down in the plaster with an instrument, being careful to have the plaster well up around the margins. When the plaster is hard mix the amalgam. I prefer to use alloy in the form of shavings, or copper amalgam is better still, as it can be used over again several times by warming it until the mercury appears in the surface and then grind it thoroughly in a mortar. Carefully pack the amalgam around the impression until it is well covered and then roll up a piece of unvulcanized rubber, about the size of a thimble, and wrap several thicknesses of rubber tape around this. Place it over the amalgam, insert in a vice and squeeze out the mercury. Leave it under pressure three or four hours, or over night. Then break away plaster, remove gutta percha, and you will find a clean cut and polished die which is easily mounted in the swage and makes a perfect matrix.—*C. J. Hadley, Chicago, Dental Surgeon.*

# PERSONAL AND GENERAL

**Dr. Arthur P. Keith**, a dentist at El Reno, died August 17 of typhoid fever.

**Dr. Nick Kantner**, a retired dentist, died at his home in Middleburgh, Pa. He was 74 years of age.

**Dr. S. B. Crawford**, a dentist at Chicago, dropped dead of heart disease while dressing for his wedding.

**To India.**—Willis Winder, who has just graduated from the St. Louis Dental College, will locate in Calcutta, India.

**Dr. A. C. Gayle**, a dentist at New Iberia, La., died July 31 from the result of an operation.

**Breach of Promise.**—Dr. Lizzie Sonberg, a dentist in Brooklyn, N. Y., has sued Jacob Beyner, a druggist, for \$10,000 for breach of promise.

**Fire at Fort Scott, Kas.**—Dr. Smith, a dentist at Fort Scott, Kas., suffered a considerable loss by fire August 13.

**Engagement Announced.**—The engagement of Dr. Henry G. Nelch, of Springfield, Ill., and Miss Mae Withey, of the same place, is announced.

**Engaged.**—Dr. C. D. Owens, of Benton Harbor, Mich., and Miss Bessie Ravell, of Grand Rapids, will be married in September.

**Dr. E. R. Stedman**, a dentist in St. Louis, was found unconscious in his rooms and died soon after. Dr. Stedman's former home was in Aurora, Ind.

**Sues for Death of Dentist.**—The estate of Dr. Marion P. Warner has brought suit against the Chicago & Alton for \$10,000 for the death of the dentist who was murdered on an excursion train recently.

**Injured by Vulcanizer.**—By the explosion of a vulcanizer in his office Dr. E. D. Geiger at Chenoa, Ill., was severely injured. A piece of the metal struck him square in the face.

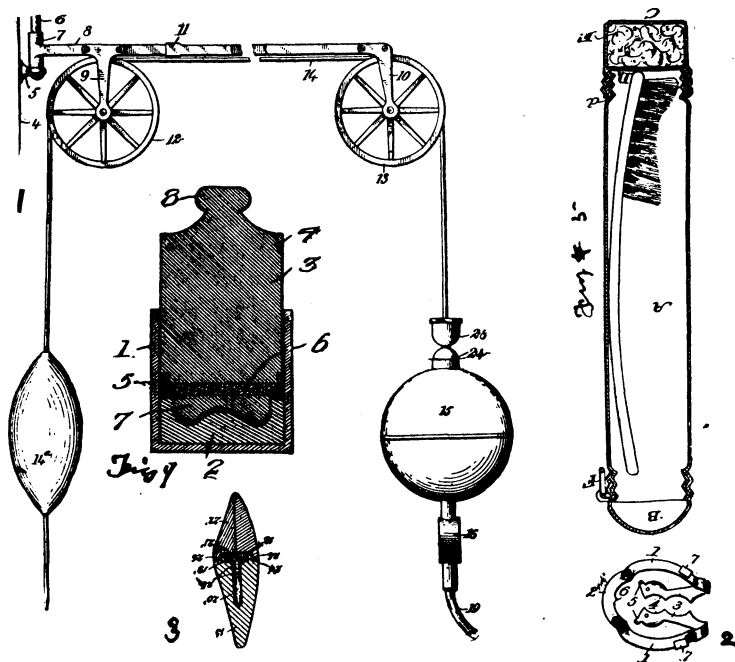
**Logan-Deatherage.**—On September 3 the marriage of Dr. Robert C. Logan, of Des Moines, and Lila Deatherage, of Richmond, Ky., will be solemnized.

**New Dean for University of Illinois.**—Dr. George W. Cook, editor of THE AMERICAN DENTAL JOURNAL, has been appointed dean of the dental department of the University of Illinois, vice B. J. Cigrand, resigned.

**Burglaries.**—Dentists at Danville, loss aggregating \$400. Burchfield & Ray, St. Joseph, Mich., loss \$200. H. A. Matson, Syracuse, N. Y., loss \$175; Drs. A. E. Man Zopfi, E. B. Brokaw and G. B. Lowery, of Findlay, Ohio, loss aggregating \$400. Milton Ruddell, Brazil, Ind., loss \$25. S. K. Rice, Norwood, Iowa, loss \$115. Robert Willis, Champaign, Ill., loss \$25. Ruhl, Wapakoneta, Ohio, loss \$35.

# DENTAL PATENTS

**826,629. Cord-Suspension Electric Dental Engine.**—John V. Trenaman, New York, N. Y. Filed July 21, 1905. Serial No. 270,658. *Claim.*—In an apparatus of the character described, the combination of a suspensory member for sustaining the weight of a motor, a plurality of conducting-wires disposed adjacent to said suspensory member, motor mechanism connected with said wires and driven thereby, and a covering common to said suspensory member and said conducting-wires.



**827,236. Combined Rubber-Dam Clamp and Holder.**—Harald J. Hansen, La Crosse, Wis. Filed July 15, 1905. Serial No. 269,891. *Claim.*—The combination with a rubber-dam holder comprising a frame consisting of side arms, a connecting-bridge, and clamping portions, said bridge formed with a pointed projection to engage the rubber dam, of detachable clamps upon the side arms for holding the rubber dam thereto.



**825,940. Crown-Tooth Attachment.**—Henry H. Schuhman, Hartford, Wis. Filed January 24, 1906. Serial No. 297,543. *Claim.*—A crown-tooth-attaching means, comprising a saddle or plate having a cup-shaped projection thereon, and a headed stem passing through the projection with its head secured in the hollow thereof, said projection and stem being adapted to fit in a countersunk bore of the tooth-root and said saddle or plate being adapted to have a tooth-crown secured thereto.

Fig. No. 3.

**826,977. Dental Swaging Device.**—George J. Weber, Liberty Center, Ohio. Filed September 21, 1905. Serial No. 279,439. *Claim.*—A dental swaging device comprising a cup having an anvil or work-backing therein, a reversible plunger adapted to be seated at either end within the cup and provided at one end a wear-ring forming a recess, and a plastic die-backing seated in the recess.

Fig. No. 4.

**827,308. Tooth-Brush Holder and Sterilizer.**—David M. Hitch, Lansdowne, Pa. Filed January 27, 1906. Serial No. 298,124. *Claim.*—In a tooth-brush container and sterilizer the combination of a tubular body for holding a tooth-brush, one end of said body being open, a perforated plate at the other end of said body, and a germicide-receptacle having detachable connection with that end of said holder provided with the perforated plate, said plate separating the interior of the body from the interior of the germicide-receptacle, and the latter being capable of removal without disturbing said plate.

Fig. No. 5.

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## REMOVALS.

Drs. G. W. Lansted from St. Cloud, Minn., to Brainerd, Minn.; Clarence Fleck from Tyrone, Pa., to Williamsburg; D. Douglass from Grand Island, Neb., to Atkinson; S. O. K. Seydell from Wapella, Iowa, to Iowa City; Griffith from Westmoreland, Kas., to Kansas City, Mo.; H. A. Duer from Jefferson, Ohio, to Painesville; B. H. Harms from Pipestone, Minn., to Bellefourche, S. D.; Pierce from Rugby, N. D., to Grand Forks; Clarence Mason from Storm Lake, Iowa, to Anthon; C. P. Hendricks from Morrison, Ill., to Kalkaska, Mich.; Oswald Whalley from Kalkaska, Mich., to Kalamazoo.

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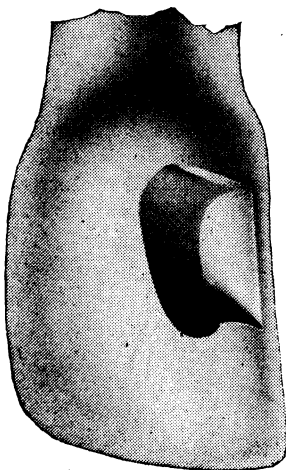
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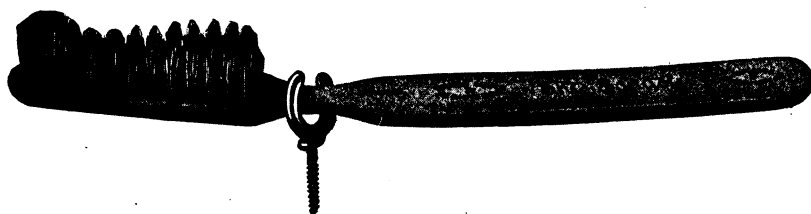
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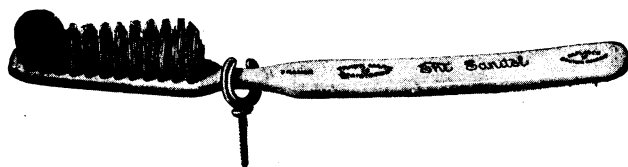
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